INSTITUTE FOR RESEARCH IN SOCIAL SCIENCE

SOUTHERN
TEXTILE BULLETIN

VOL. 39 CHARLOTTE, N. C., FEBRUARY 26, 1931 No. 26

Are You Prepared to Meet the New Conditions?

Whether we look to the Stock Market, to Manufacturing or to Merchandizing to make money for us, we have been engaged in putting our house in order for the good times that we know are coming.

The first rule of putting the house in order is to unload—the Banker and Merchant call it liquidating.

To the Textile Manufacturer it should mean liquidating all old and unprofitable machinery.

Better textile machines are being made all the time. So many major improvements have been made during the dull times that the man who tries to make money now with old equipment will work under a heavy handicap. The textile industry is coming back under new conditions.

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Let's Talk It Over.

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Here are the Crucial Minutes

. . *which the business paper helps to save*

"Mr. Smith," calls the secretary. The first of a line of waiting salesmen, hurriedly collecting hat and sample case, enters the buyer's office. A ground-glass door closes behind him. The other men shift, recross their legs and settle down to wait their turn. It won't be long now.

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Because the business paper of today deals so authoritatively and constructively with the problems of its industry, profession or trade, it not only passes through the ground-glass door, but it is read, thoroughly and attentively, by the man who constitutes the manufacturer's most important single objective. His interest makes the business paper the key to saving crucial selling minutes.

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SOUTHERN

TEXTILE BULLETIN

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VOL. 39 CHARLOTTE, N. C., FEBRUARY 26, 1931 NO. 26

Some Phases of the Textile Situation

SPEAKING before the Rotary Club of Gastonia, Wade B. Roddey, well known textile man, of Gastonia, discussed various phases of the present textile situation. He said:

There are so many different phases to the cotton mill manufacturing industry that it is difficult to determine just which of them is the most interesting. I, for one, should prefer to think in terms of the "cotton industry" rather than think so much about the "cotton mill industry," for our interests are all the same all the way from the planting of the seed to the retailing of the finished products in our stores. Our cotton manufacturing industry has, I believe, been too long isolated and insulated from the other activities of the cotton industry as a whole. It would take more time to discuss the cotton industry as a whole than we have at our disposal, so it is going to be necessary to get down to some particular phase of the industry.

I thought it would be interesting today to take stock of our emotional equipment in the cotton industry, that is, our feelings in regard to certain phases of the industry, for the feelings we experience in relation to certain things are just as interesting, and often more important, than our stock of knowledge in that regard.

For example, the men who laid the foundation for Gaston county's cotton textile supremacy may not have been experts in the science of sociology, for at that time sociology had hardly been recognized as a science, but these men did have certain feelings, very definite and well defined feelings, toward the people who worked in the cotton mills. They felt that these people were entitled to the best wages that the industry could afford at that time and they always took a keen personal interest in the welfare of the mill people. The result of this feeling towards the people who work in the mills has given the industry in this county a splendid class of cotton mill workers. Our mills have, during periods of depression, made sacrifices to minimize unemployment, and have at all times maintained a higher wage scale than obtains in certain other textile centers. That this feeling of fairness and sympathy towards the people in the mills is appreciated was shown when a recent invasion of foreign agitators failed to make any headway and came to naught. Thus we see that our feelings regarding one phase of the cotton textile industry are correct. Not even the most optimistic man in the industry will claim perfection in this respect, but the fact that we are equipped with the right feelings in this regard and that we have made progress in the past is evidence that continued progress will be sought in the future.

AMERICAN VS. FRENCH ATTITUDE

Let us observe another phase of the industry. A year or two ago a young Frenchman was in this city studying the cotton textile industry, and I heard one of my friends discussing with this young Frenchman the difference between cotton manufacturing in France and in the United States. My friend asked this young Frenchman to explain certain differences that existed between cotton cotton manufacturing in the two countries. The young man smiled and replied that the Frenchman built a cotton mill simply for the love of making beautiful cotton goods, but that an American built a cotton mill to make money. Thus we have two entirely different attitudes or feelings towards this phase of the industry. If you were to ask me to say which attitude is the correct one, that of the Frenchman who satisfies his artistic sense by creating beautiful cotton goods or that of the American who goes into the business simply for the sake of the dividends he can wring from the industry, I should be obliged to tell you that both of them are wrong. If, as the young Frenchman stated, the American goes into the cotton textile industry just to make money, you may be sure that he will never make any contribution to the industry as a whole but will become a parasite on the industry, sapping it of its vitality. He will never think otherwise than in terms of prices and production, and his intellect will be developed along the line of shrewd bargaining and in gaining advantages over other men in the industry. The Frenchman's attitude is of course more commendable, but his activities for rendering service will always be limited by the capacity of the public to appreciate and use his products.

THE CORRECT ATTITUDE

If you are interested in knowing what I consider the correct attitude for the cotton-textile manufacturer to adopt towards the industry, I could answer by directing your attention to those typically American industries which have seen so successful that they have challenged the admiration of the world, and ask you to study them and observe the causes that have led to their great success, but since we have not the time to go into all of this fully and since we want an immediate answer to our question, I shall be as brief as possible and say that, with the possible exception of some highly specialized lines of cotton-textile manufacturing, the only justification for building a cotton mill is to make women more attractive looking, to provide men, women and children with clean, sanitary and comfortable clothing, and to equip their homes with all the comforts and luxuries their means can afford.

Further, it is not sufficient that we simply provide the materials for the purposes in view. It must be our task to interest and instruct and in this way make our contribution towards maintaining and raising the standard of

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Dyeing of Satins

WITH the Viscose Company now offering its Seraceta yarns on a commercial basis, considerable interest is being taken in methods for dyeing fabrics woven of this yarn. Particular attention is given to the handling of Seraceta satins in a booklet recently issued by Courtaulds, Ltd., in England under the title, "The Preparing, Dulling, Dyeing and Finishing of Seraceta Fabrics and Yarn." Concerning all-Seraceta satins, it says:

"It is essential that the dyer should receive pieces from the manufacturers as free from cracks, creases and oil marks as is commercially possible, other wise it is impossible for him to guarantee that the final finish will be entirely free from these faults, although the trouble can be minimized and in many cases eliminated according to the nature of the creases or cracks by subsequent treatment. With regard to oil marks, it is generally not advisable to attempt to remove these by the local application of solvents, as there is a tendency to patchiness on dyeing in these places, generally due either to the grease having been spread throughout the patch and not being removed or to a fluffy or broken face on the piece caused by rubbing.

NEEDED PRECAUTIONS

"Strong cotton wrappers are sewn onto both ends of the batch of pieces. It is advisable for the first yard or so on the piece end of the wrapper that a length of old material made from 100 per cent Seraceta be sewn on the face of the wrapper coming in contact with the piece. If this is not done, the first few yards of the actual piece at either end are usually dyed a darker shade than the rest of the batch, as the cotton wrapper picks up the dyestuff without absorbing it, and this extra percentage of dyestuff is immediately absorbed by the first few yards of the piece in direct contact with it. Again, the wrappers and pieces should be sewn together with a suitable thread made from Seraceta, as cotton thread will mark off on to the pieces as explained above. Careful attention should be paid in sewing pieces together to avoid contraction taking places at the piece ends during dyeing, which will result in very objectionable cracks and creases which sometimes persist throughout the piece. Many dyers prefer to lose the first yard or so at either end of the piece or pieces in preference to taking the above precautions. Instead of wrappers tapes are sometimes used, but they do not generally give satisfactory results, as it is almost impossible to avoid uneven warp tension in dyeing, which will result in creasing and weft displacement usually in bow formation.

"These pieces are best prepared and dyed, etc., on the jigger; the usual type of jigger can be used provided it is fitted with rollers running on ball bearings. So-called tensionless jiggers in many cases give satisfactory results, more particularly in scouring and dull finishing, if fitted with an easy-running rubber-covered expander operating in gear with the machine. In this last case it is usually necessary, however, to apply a little tension in order to prevent excessive formation of air bubbles and to keep the selvedges straight and thus avoid creasing, particularly when the selvedges are faulty, e. g., slack or tight. Expanders can be used with advantage on the ordinary jiggers for some of the more closely woven types of fabrics when the last-mentioned difficulty persists, but they must not be used with pieces liable to weft displacement and which have not been subjected to a non-slip preparing process.

"Another difficulty experienced in dyeing this fabric on the jigger is that of a slight variation in width, which finally results in dark and light dyed selvedges. In this case pieces run better if they are dyed on the ordinary jigger with the minimum tension required for keeping the pieces straight.

"If the pieces are in bad condition, owing to excessive creases or cracks, it is best to wet them out thoroughly on a jigger before scouring, and this can be done in a bath containing water only or with the addition of a small percentage of soap at a temperature of 40 degrees centigrade (104 degrees Fahrenheit) to 60 degrees centigrade (140 degrees Fahrenheit). The pieces can then be hydro-extracted at width in a centrifugal hydro-extractor or run at full width over the vacuum hydro-exhauster, then being batched and dried on a hot air stenter with the minimum amount of weft and warp tension required to take out the creases. As an alternative, they can be run over a belt stretcher blanket finishing machine of the Palmer type provided the steam pressure on the cylinder does not exceed five pounds per square inch, and the pieces are only allowed to remain in contact for just a sufficient length of time for them to dry.

"Desizing is a most important operation which contributes very materially to the final results, particularly as regards "cannage," reppiness, weft barriness and warp stripiness. The best results are obtained by padding the pieces on the jigger at 60 degrees centigrade to 80 degrees centigrade in one of the following baths:

20.75 kgs. Monopole soap No. 1.
2,550 c.c. of 19½ per cent caustic soda.
1,650 c.c. xylol.
per liters.

41½ pounds Monopole soap No. 1.
4 pints caustic soda 45 degrees Tw.
2¾ pints xylol.
per 10 gallons.

"Dissolve the Monopole soap completely, sieve and bulk, then add the caustic soda, mixing well, and finally add the xylol, mixing thoroughly. The pieces are allowed to stand for a few hours of overnight, and if possible turned occasionally while standing in a horizontal position to prevent too high a concentration of liquor occurring at the bottom of the batch. This bath can be kept as a standing bath for a considerable length of time. A very good non-slip finish is given by this method of desizing. Other similar methods of desizing give satisfactory but not quite as good results as the above.

"The pieces are then scoured with 0.15 per cent to 0.25 per cent (green olive oil).
0.05 per cent to 0.1 per cent ammonia (.880)
at 60 degrees centigrade (140 degrees Fahrenheit) to 80 degrees centigrade (176 degrees Fahrenheit) for pieces to be bright finished, and 60 degrees centigrade (140 degrees Fahrenheit) to 100 degrees centigrade (212 degrees Fahrenheit) for pieces to be dull finished, during three-quatrers to one and one-half hours.

(All percentages mentioned are on the volume of the bath. Soft water should be used in all processes.)

DULL FINISHING

"Pieces to be dull finished are then washed thoroughly and worked in a bath containing 2 per cent olive oil soap at the boil for one and a half to two hours. If a matt finish is required, 1 per cent to .25 per cent phenol should be added to the bath last mentioned, the bath being kept at 100 degrees centigrade (212 degrees Fahrenheit) with a closed steam coil for half to three-quarters of an hour. It is necessary to maintain 100 degrees centigrade (212 degrees Fahrenheit), and it has been found advisable to use high-pressure steam for heating purposes. Green olive oil soap gives better results than other soaps, but it must be a good brand, otherwise dirty streaks may be experienced, due to the breaking down of the soap. Care must be taken in dissolving up the phenol, and it should be added to the bath as a very dilute solution in order to avoid small particles of the phenol coming into contact with the piece and causing spots. As 100 degrees centigrade (212 degrees Fahrenheit) is absolutely necessary for the dullest results, it is sometimes impossible to obtain the dullness required on a jigger where that temperature cannot be maintained; in that case pieces will have to be strung and dulled by the box or book form method. Floating of the pieces is liable to occur at this temperature, and it has been found necessary to fix the heating coils below a false bottom, the connecting pipes being led in and out at the bottom and not down the sides. Generally speaking, the best results are obtained by framing the pieces when they have to be dulled at 100 degrees centigrade (212 degrees Fahrenheit).

"The dullness can also be increased by varying the phenol content as above mentioned, and for heavy shades it is necessary to obtain a dullness a little in excess of that required in the finished piece, as there is a tendency for the luster to increase during dyeing. The dullness also varies with the pH value and the length of time given, and it must be pointed out that it is possible to overtreat the pieces and pass the dullness point, thus obtaining a slightly brighter effect. With regard to the pH value, the best results are obtained at a pH value between pH 10 and pH 11. Between pH 10 and pH 6 the degree of dullness drops considerably. On adjusting the pH value to be more alkaline than pH 11, dulling is retarded and not increased. This liquor can be used again, but for the second and third batches it is advisable to add one pound of Nekal per fifty gallons, and it is also necessary to maintain the phenol content at the strength required, as a loss of phenol takes place during the process. The pieces are then washed in water containing .25 per cent ammonia, followed by a thorough rinsing in water.

"The determination of phenol in soap liquors may be carried out as follows:

Reagents required:

(a) Sodium hydrate, 200 gm.-liter.
(b) Sodium chloride (solid).
(3) Sodium chloride 250 gm.-liter.
(d) Conc. hydrochloric acid.
(e) $\frac{N}{1}$ "Aavilable" bromine.
(f) $\frac{N}{10}$ Sodium thiosulphate (standard).

"The standard bromine is prepared as follows:

"Measure 100 c.c. of N. sodium hydrate into a beaker. Add bromine till the liquid becomes brown in color and smells distinctly of bromine. Boil the solution till quite colorless. Cool and dilute to 1 liter (1 c.c. equals 0.001568 gm. phenol).

Method.—Pipette 25 c.c. of the soap and phenol liquor into a 100 c.c. standard flask. Add 5 c.c. of 200 gm.-litre sodium hydrate and 10 gm. solid sodium chloride, dissolve and make up to mark 250 gm.-liter sodium chloride solution. It is important to dissolve the salt as completely as possible.

"Filter off the precipitated soap and pipette 50 c.c. of the filtrate into a conical flask. Acidify with 5 c.c. conc. hydrochloric acid (noting that no precipitation of fatty acids from unremoved soap takes place), then add 25 c.c. $\frac{N}{10}$ bromine solution. Stopper up and stand for ten minutes, keeping cool and avoid loss of bromine. Add excess potassium iodide, and titrate the liberated iodine with sodium thiosulphate (A). A blank titration should be performed against 25 c.c. bromine solution to which has been added 5 c.c. conc. hydrochloric acid and potassium iodide as above (B).

"Then gm. phenol per liter equals (B—A) X 0.1254.

Dyeings of Bright Types

"Pieces requiring a bright finish are dyed on the jigger in a bath containing 0.1 per cent to 0.25 per cent soap for pale and medium shades. For heavy shades dyeing is best carried out in plain water or with the addition of 0.25 per cent Monopole soap. The special dyestuffs recommended by the dyestuffs manufacturers are generally satisfactory and are used as recommended, taking into consideration, of course, the various fastnesses required. Dyeing takes place at 60 degrees C. (140 degrees F.) to 80 degrees C. (176 degrees F.) for bright finishes, during 1½ to 2 hours) and at 60 degrees (140 degrees F.) to 100 degrees C. (212 degrees F.) for dull finishes during the same time.

"Care is required in matching, due to the peculiar properties of the special dyestuffs required, some of which are phototropic. It is, of course, essential that the patterns taken from a piece should be well cooled and conditioned and examined in a north light when matching. In order to obtain the same shades in natural and artificial lights it is essential that exactly the same recipes be used for bulk orders as those used on the patterns submitted.

Soft Finishing

"The pieces are generally hydro-extracted straight from the dyebath, leaving in the small amount of soap as a softening agent. With heavy shades it is best to wash them off and run them in a clean bath with a little Monopole soap or olive oil emulsion. Several patented soft finishing agents are recommended by various firms, but it is generally agreed that the final finishing operation is the stage at which the required softness is best obtained.

"After dyeing, the pieces are hydro-extracted at width on an ordinary centrifugal extractor or run over the vacuum hydro-exhauster. The usual types of the latter should be easily adjustable in order to suit the easy-running requirements of pieces made from Seraceta. If the hydro-exhauster is used, the pieces are run onto a batching roller fitted with a taking-up motion to avoid too much warp tension, which would result in water marking.

Dyeing and Finishing

"The pieces are generally dried on a hot-air stentering machine, with the minimum amount of weft and warp tension required to eliminate creases. A temperature of 60 degrees C. (140 degrees F.) will result in the mellowest handle in the finishing, higher temperatures giving slightly harsher results.

"Another method of drying is to run the pieces over a blanket finishing machine of the Palmer type, there being points in favor of and points against the use of a belt stretcher before running over the drum. As the pieces come in direct contact with a hot surface in this machine, it is necessary that the pressure of steam should not exceed five pounds per square inch, as at higher steam

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The Boiler Room of the Future*

BY GEORGE A. ORROK

Consulting Engineer, New York

BEFORE contemplating the future, it is always well to look back over the progress in the art and to consider the changes and improvement made in the generation of steam which have led up to the present-day attainments, and thus draw conclusions as to what may be expected in the future from the lessons of the past. We need not consider the tea-kettle boiler of Newcomen or the wagon-box boiler of Watt, except to note that these boilers were quite as rudimentary in character as the modern tea-kettle and consumed only "a few hundred-weight of coals" per day. The chimneys were short, the draft could hardly be measured on a water gauge, and the steam pressure carried were of the order of those carried today in the modern cast-iron boiler of the small house-heating system.

The progress from a boiler plant of this type to the Cornish or Lancashire boilers in the English of the next generation or to the return tubular boiler which has been standard in America for small plants for many years, is exceedingly great. English practice followed the internally fired boiler type, and need not concern us here. But the return tubular type used in this country lent itself to excessive duplication, and the last generation saw many plants which consisted of possibly as many as 50 to 80 or even more, of these boilers, each about 66 in. in diameter and 18 ft. long, set in batteries of 2, 4, or 6, each boiler being provided with a grate possibly 5 ft. square and not more than 16 in. below the shell of the boiler, on which the fuel was burned. These boiler rooms were low and very dark, and the line of boilers usually had piles of ashes in front of the ash doors, while just behind each fireman was a pile of coal from which he fired his boilers. The coal and ash handling was done by wheelbarrows run by the fireman, and the firing of 250 lb. of coal per boiler per hour was a heavy task performed under the worst of conditions. It was conditions like these that led to the invention of the water-tube boiler, which lent itself much better to increasing size, and boilers of two to three times the capacity of the return tubulars soon became common, although the same disagreeable and laborious firing conditions continued for a long time. Within the last year I have been in certain boiler rooms where these same conditions still exist.

GENERALIZING STEAM

The demand for power in ever-increasing amounts soon forced the manufacturers to the enlargement of the water-tube boilers, which were readily susceptible to improvements in design. The increasing use of fuel led to the invention of mechanical stokers, and later to the firing of coal in powdered form, and boiler sizes and capacities have been increased up to the large units in the East River station which represent the last word up to date in capacity and fuel consumption per boiler. Meanwhile the working conditions for the fireman have improved. Windows have been introduced into the boiler room; mechanical stokers, fed from an overhead bunker with the coal automatically delivered into the stoker through a pipe, have lightened the labor of the fireman. Ash hoppers and ash-disposal machinery have removed the ash pile from the boiler-room floor, and in many cases have eliminated the ash gang. Forced draft and the balanced-draft systems have ventilated and cleansed the atmosphere of the fire room, and from being the darkest, dingest, dirtest place in the power station, the boiler room is now open, airy, cool, and reasonably clean. The fireman, or rather the boiler operator, need not dirty his hands, and might easily wear a white shirt while at his work. Even the cost of making steam has been much reduced if the cost of the fuel itself is not taken into account.

But this is not all: the discovery of oil in Pennsylvania brought oil fuel into the boiler room, and we have today many boiler plants fired with oil which follow in general design those built for the use of solid fuel. With the production of oil, natural gas came into use, and good examples of boilers fired with natural gas are perhaps among the finest of present-day examples of the boiler-room art. With these improvements also came the control systems which have been designed to do away with the hand control of fire-room apparatus, and most of our modern plants are more or less automatically controlled with devices of this type.

PRESENT TYPE OF BOILER ROOM

Taken in general, the boiler room of today is a reasonably clean, cool, comfortable building housing the entire steam-generating apparatus, with plenty of light for inspection, with an automatic control so that the boiler operator practically an overseer whose duty it is to see that the various pieces of apparatus function in their normal manner, who only has real work to do in an emergency, and this whether the fuel be coal, oil, or gas. The coal passers and firemen have been superseded by machinery, the ash gang is non-existent, and the boiler room operatives for a large plant might be cut down to one man as far as real labor is concerned. However, we have not yet been enabled to do away with the "black gang"—the boiler cleaners, who are still with us—because no matter how carefully machinery may be designed and built, at stated times it must be shut down, cleaned, and repaired for the next run. But even this job is not such a serious one where oil or gas is used as the fuel. I have been informed that there are instances of large boilers, oil or gas fired, which have not needed outside cleaning for a whole year at a time, and I know of a number of cases where the internal cleaning of boilers has been reduced to a washing out plus inspection. It is possible today so to treat most of our boiler waters as to give little cause for labor during the inspection period. We have examples of boilers which have run more than 20,000 hours without the loss of a tube, and required only very minor repairs at the end of a period.

Meanwhile boiler efficiency, or rather fuel efficiency, has been increased to a very large extent. In the early boilers not more than 50 per cent of the heat units in the fuel appeared in the steam at the boiler stop valve. Today, with our methods of heat saving and our modern

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*Paper read at Fourth National Meeting of the Fuels Division of the American Society of Mechanical Engineers in Chicago.

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designs, from 88 to 92 per cent is possible in a test; beyond this it has not yet appeared to be reasonable to attempt to go, although we know well that by means of heat exchanges we could probably increase this efficiency to perhaps 96 per cent, but at a cost too high to be considered.

One of the serious drawbacks to the earlier boilers was the fact that every once in a while one of them would burst, spreading destruction around the neighborhood and usually resulting in serious loss of life. The boilers at that time were almost entirely of the shell type, with large diameters and reasonably thin iron plates, and were a constant menace unless great care was exercised in their construction and operation. However, progress in boiler design has cut down the size of shells or—as we now speak of them in the water-tube designs—drums, the thickness of the plates has been increased, steel has been substituted for iron, and today explosions of well-designed boilers practically never occur. In addition, we have cetrain designs of boilers for particularly high pressures in which there are no drums and in which the pressure fluid is confined in small tubes of very high strength as compared with the working pressure. Even should one of these tubes fracture, as it sometimes does, the possibility of damage is small indeed and has ceased to be a menace. Our metallurgists are working for the production of better tube and drum materials than those which we have for use at the present time, and there is no doubt that even these small dangers can soon be forgotten.

The foregoing paragraphs may serve to set forth the well-considered, efficient, and economically sound boiler room of today, and we must now consider what the lessons of the past have taught us and what we may expect as a reasonable line of future development toward the boiler room of the future.

SOLID FUELS

Our present use of fuel has been set at the equivalent of 25×10^{15} British thermal units per annum. Of this amount approximately 65 per cent represents the use of solid fuels, of which about one-seventh is anthracite coal. One of the serious drawbacks to the use of solid fuel lies in the ash content, and since many of the better deposits of coal in the United States have been exhausted, the ash content of the present supply varies roughly from 8 per cent in the best semi-bituminous coals to around 30 per cent in the fine sizes of anthracite, and much higher in lignites and other classes of coal now little used. The tonnage of ash is large, and its disposal has always been a serious problem. Wherever solid fuel is burned a substantial proportion of the ash is carried through the boiler, up the stack into the air, and scattered over the surrounding country. Roughly, where no dust catchers are used, it is probably that between 2 and 4 per cent of the weight of the coal fired is distributed in the vicinity of the plant as dust, and many experiments have been made to determine the dust fall in industrial communities. The reports of some of the smoke commissions in Great Britain show figures in excess of a thousand tons per square mile per year in certain cases, a most serious handicap to any locality.

Where the coal is burned in powdered form, the amount of dust escaping may be much larger, and even with the best dust catchers a serious amount of fine dust, not larger than 25 microns in diameter, escapes into the air. Legislation in various countries has been directed against this nuisance, and particularly in England, where the latest law is quite drastic in its application to industrial furnaces. There are, however, methods of burning solid fuel and storing the heat units in gaseous form where none of the dust may escape into the atmosphere. These devices are well known and at the present time are quite satisfactory in operation, although their cost has been such as to prevent their extensive introduction. One of the results of this drastic legislation will be to make this type of apparatus for the burning of solid fuel much more attractive, and the use of complete gasification plants points one way to the solution of the boiler-house problem of the future.

GROWING USE OF LIQUID FUEL

The use of liquid fuel has been increasing to a remarkable degree, and at the present time 25 per cent of our yearly fuel supply represents the use of mineral oil and its products in furnaces and internal-combustion engines. The remaining 8 to 10 per cent represents the use of natural gas, which is now distributed over a large portion of the country through pipe lines to centers of use. This pip-line network is being rapidly extended, and one firm alone is furnishing large-sized pipe at the rate of over 12,000 miles a year. It is estimated that more than 200,000 miles of pipe line 6 in. and larger in diameter are already in service, and whether our solid fuel will be gasified at the coal mine and transmitted to the point of use through pipe lines, or gasified at places far removed from thickly populated centers and piped shorter distances, is immaterial for this paper. But it would appear that in the near future the dust problem alone will necessitate the use of gaseous fuel for steam raising in the neighborhood of large centers of population. The gas companies well understand this problem, and there is hardly one in the country today which is not considering the making of such arrangements that houses may be heated with gas from their mains instead of with coal-fired furnaces with their attendant ash troubles, dirt in the cellar, and the expense and trouble of handling, storing, and firing the fuel. Installations of this type are being made daily in all of our larger cities at prices which make the householder eager to convert his coal-burning plant into an automatic gas-burning one.

Many of our central stations which have been burning powdered coal as a main source of supply, have their burning arrangements so made that oil may be used as the fuel when it is cheap enough, and many other plants are arranged for the burning of oil or natural gas in the same burner, depending on the cost of the fuel supply. The manifest advantages of fuel in the gaseous form, the ease of control, the cleanliness, the advantages of the mixing burner and combination burners, are already greatly appreciated.

Liquid fuel is a most convenient one for boiler-room purposes. However, it would appear to be much too valuable a raw material to burn in its present form, particularly since there are at present 28,000,000 automobiles in the United States. The future will no doubt see a considerable increase in the number of automobiles and in the use of the distillation products of petroleum. Petroleum residues will probably always play quite a part in the generation of steam, but the boiler rooms in which they are utilized will not be ideal and will only be a small proportion of the total number. I do not consider them as representative examples of the boiler of the future.

GAS FIRING

After what has been set fourth in the last few paragraphs, we may postulate that the boilers of the future will be gas fired. This means that there need be no coal, no storage provisions, no coal-handling appliances. Ash will not be present and therefore dust catchers and the troubles incident to boiler cleaning may be forgotten. The fuel will be brought into the station through a pipe, and the products of combustion largely carbonic acid and nitrogen, will go out of the chimney in a clean state. The atmosphere will not be polluted with dust, and the coal pile on a windy day will not scatter coal dust over the neighborhood. The householder will light his heating boiler in the fall, and regulating it with a thermostat, he should not have occasion to be aware of its existence till he shuts it off the following spring.

In discussing this paper, one of my friends asked me why, when I had postulated gaseous fuel as the fuel of the future, I did not throw out the boiler plant and generate power with gas engines, thus getting rid of the entire boiler-house problem. I know perfectly well that the gas engine will be used to a certain extent—to how large an extent no one can say—but probably not widely, since its cost has never been brought down to the economical range. There is a field for the gasoline engine, the gas engine, and the Diesel engine, and these fields will be well covered, but the essential cheapness of the steam machinery, its flexibility, together with the lack of limitation in size of apparatus, will, in my opinion, keep the steam boiler with us as long as heat engines continue to be our main source of power.

Having indicated the solution of the fuel problem, we must turn our attention to the apparatus, which is the boiler, since our subject is the boiler room of the future. We have today discarded the old forms of shell and fire-tube boilers and are coming more and more to a boiler which is a simple collection of tubes connected by headers of the same shape and of but little larger size. The laws of heat transfer are now fairly well known, and the advantages of a very rapid circulation on both the gas and water sides are thoroughly appreciated. We have at least six designs of boilers with exceedingly good characteristics which contain no large parts and which are truly safety boilers since a serious explosion of any of them is unthinkable. On many of these boilers the only sign that break has taken place is the falling of steam pressure, which warns the operator that something has happened. The boiler of the future will be built along these lines. There will be no storage of steam in large shells, in fact we shall go back 100 years to the schemes of a Yankee inventor, Jacob Perkins, who believed in and patented the idea that steam should be made when it was wanted, and used immediately, thus making possible the use of any pressure within the thermodynamic range. Such boilers will naturally be very much smaller in size than many of the present-day boilers. With gaseous fuel and the preheating of combustion air, the flame can be made exceedingly short and the heat liberation may be quite large. The combustion space, which today is of considerable size, will be much reduced, and the speed of the products of combustion through the boiler will be very high in order that the heat transfer may also be high.

I am inclined to believe that the boiler of the future might be termed a cellular boiler, in that it will be built up of a number of unit cells, each cell using a certain amount of fuel and generating a certain amount of steam, the number of cells in the boiler depending on the demand for steam. A boiler of this type would be self-contained with its auxiliaries, would make no dust or dirt, could be located in the same room as the turbine and generator, and the boiler room, as a boiler room, would disappear.

Summarizing, we may state the following conclusions as to the future.

1. All solid fuel for the making of heat and power in the future will be burned in the gaseous state, necessitating: (a) Complete gasification plants. (b) Coking plants where metallurgic applications are desired. (c) A great development of pipe-line transportation for the distribution of fuel.

2. The development of large-capacity boilers of small physical size, using high speeds and high heat-transfer rates, necessitating: (a) Excellent burner practice and low excess air. (b) Absolute safety in boiler construction and design, very small water content, and no large drums. (c) A high commercial efficiency since installation cost per unit of heat should be much lower.

3. The practical abolition of the smoke and dust nuisance from solid fuel in thickly settled communities.

Many New Textile Plants and Additions in Piedmont Last Year

THE following list of new textile and allied industries established in the Piedmont Carolinas last week, together with a list of the existing plants which made extensions in plant or equipment were compiled by the Duke Power Company, at Charlotte:

Gastonia: The Boysell Rug Co., rugs; Gastonia Thread Co., sewing thread.

Lexington: Superior Co., men's socks; *Shoaf-Sink Hosiery Mill Co.; hosiery.

Durham: *Golden Belt Mfg. Co., hosiery; *Ruth Hosiery Mill, hosiery.

Statesville: *Statesville Cotton Mill, textile; Stimpson Hosiery Mills, Inc., hosiery.

Shelby: Carpenter-Colquitt Hosiery Mill, hosiery.

Newton: *Warlick Mfg. Co., silk crepe and rayon.

Concord: *Hoover Hosiery Co., hosiery.

Star: Star Hosiery Mills, hosiery.

Granite Falls: *Falls Mfg. Co., textile.

Hemp: *Pinehurst Silk Mills, textile.

Kings Mountain: *Dilling Cotton Mills, textile.

Rockingham: Hannah Pickett Mills No. 2, textile.

Great Falls: *Republic Cotton Mills, textile.

Rock Hill: *Rock Hill Hosiery Co., hosiery.

Winnsboro: *Winnsboro Mills, textile.

Charlotte: *Darlington Fabrics, draperies, brocades, etc.; *Ellis Hosiery Co., hosiery; *Duchess Co., women's underwear; Carolina Cork Roll Co., toproll coverings; *Service Garment Co., ready-to-wear garments; M. J. Phillips Pants Co., men's work pants.

Burlington: *Alamance Weaving Co., processing silk, cotton, etc.; *Carolina Rayon Mills, rayon; May Hosiery Mills, hosiery; Elder Hosiery Co., hosiery; Novelty Mfg. Co., bedspreads, draperies, etc.; *Burlington Mills, Inc., textile.

Mt. Airy: Mt. Airy Knitting Co., children's knit underwear; Pine State Knitwear Co., knit underwear, sweaters.

Winston-Salem: *Joyce Hosiery Mill, hosiery; *Chatham Mfg. Co., blankets; Hill Apperson Hosiery Co., hosiery; *O'Brien Hosiery Mills, hosiery.

Hickory: *Hollar Hosiery Mills, hosiery; *Lyerly Full Fashion Hose, hosiery; *Sterling Overall Co., overalls; *Shuford Hosiery Mills, Inc., hosiery.

High Point: Byrum Hosiery Mills, hosiery; *Melrose Hosiery Co., hosiery; LaSalle Textile Corp., textiles; Piedmont Hosiery Co., hosiery; *E. O. Kearn & Son, Inc., textiles; *Pickett Cotton Mills, textiles.

Marion: *McParr Hosiery Mill, hosiery; J. Q. Gilkey Hand Weavers, homespun; Marion Knitting Mill, hosiery; *Marion Mfg. Co., textile.

Greensboro: *Mock Judson, Voehringer Co., ladies' hosiery; *Greensboro Full Fashion, etc., hosiery; *Dixie Throwing Co., silk.

Greenville: Slater Mfg. Co., fine cotton goods and rayon alpacas; American Shirt Co., men's shirts; Edward B. Cohen, cotton dresses; *Southern Bleachery & Print Works, textiles.

Mt. Holly: *Carolina Winding & Dyeing Co., converting and dyeing.

Valdese: *Pilot Full Fashion Hosiery Co., hosiery.

Travelers Rest: *Renfrew Mills, textiles.

Belmont: *Knit Products Corp., full fashion hosiery.

Elkin: *Chatham Mfg. Co., blankets.

Tryon: *Southern Mercerizing Co., hosiery.

Ellenboro: *Ellenboro Mills, bedspreads.

Hildebran: *J. A. Cline & Son, hosiery.

Cowpens: Idealite Mills, rayon fabrics.

Slater: *Slater Mfg. Co., textile.

Tucapau: *Tucapau Mills, textile.

Note—Where an * precedes the name of the company, it indicates enlargement of an existing plant.

Rayon Industry Shows Progress

The American rayon industry last year materially strengthened its position in the home market, maintaining production to within 10 per cent of the 1929 output, it is disclosed by an analysis of the situation compiled by the Textile Division of the Department of Commerce.

Yarn production last year amounted to 110,000,000 pounds, against 122,000,000 pounds in 1929, the division reported. At the same time, however, imports of yarns, threads and filaments declined more than 63 per cent from the 1929 total, from 15,960,000 pounds to 5,813,000 pounds. Imports last year thus amounted to but little more than 5 per cent of the domestic output, as compared with 13 per cent in 1929, this ratio being the smallest for any year since the beginning of the industry in this country, except 1928. Imports steadily declined throughout the year, it is shown, for the first six months dropping 48 per cent under the receipts for the corresponding period of 1929, and for the last half of the year dropping 85 per cent. The total imports for the final half of 1930 were 25 per cent less than the monthly average for 1929.

23 Per Cent Output Made in U. S.

While the American industry showed a decline last year, officials of the division commenced, it was not alone in feeling the effects of depression, for, although world production data are not yet complete, preliminary estimates indicate that Japan was perhaps the only country to show a gain over 1929 output. Figures from that country indicate a 1930 production of 35,000,000 pounds, against 27,000,000 pounds the preceding year. The United States furnished about 28 per cent of the world's rayon yarn output in 1929, and is believed to have retained its position last year. It is anticipated that Italy, Germany, Great Britain, France and Japan will probably rank next in order, these countries, together with the United States, accounting for 80 per cent of the world output in 1929, when our production was approximately twice as great as that of Italy, the next largest producing country.

"Viscose process yarns continued to hold firmly to their position as leader," the division commented, "accounting for approximately 88 per cent of the world total and a similar proportion in this country. Acetate yarns increased in the past year from 6 to 7 per cent of the world output, and in the United States the influence of additional companies taking up the process was shown by an increase from 6 per cent in 1929 to 8 per cent in 1930. Cuprammonium and nitrocellulose yarns divided the remaining proportion fairly evenly among themselves.

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Carding and Spinning to Feature Georgia Meeting

CARDING and spinning subjects will be discussed at the spring meeting of the Textile Operating Executives of Georgia, which, it is announced, will be held on Friday, March 13th at the Georgia School of Technology, Atlanta. The meeting will consist of two sessions, and a Dutch luncheon. The morning session, to discuss carding, will open at 9:30 o'clock, and the luncheon will be held at one o'clock. The afternoon session, to start at two o'clock, will cover spinning subjects, and will be adjourned at 4 o'clock. This session will conclude the meeting.

This being the semi-annual meeting, no election of officers will be held, but one member of the executive committee will be elected to succeed George S. Elliott, whose term of two and a half years expires with this meeting.

Frank K. Petrea, superintendent, Swift Manufacturing Company, Columbus, is general chairman of the Association, and E. H. Rogers, agent, Fulton Bag & Cotton Mills, Atlanta, Ga., is vice-general chairman. The carding discussion at the morning session will be in charge of D. D. Towers, superintendent Anchor Duck Mills, Rome, Ga.; and Albert Lehmann, Jr., superintendent Dixie Cotton Mills, LaGrange, Ga., will have charge of the spinning discussion at the afternoon meeting.

Such pertinent subjects as single-process picking, straight wire and metallic card clothing, continuous card strippers, and V-belt drives will be covered in the carding discussion. Non-oiling saddles, made of wood, calf-skin and cork roll covering, and other subjects of current interest will be discussed at the spinning session. A complete copy of the questionnaire for the meeting is appended. Each question on the questionnaire has been assigned to several members of the organization for definite report at the meeting.

The executive committee of the organization consists of George S. Elliott, Albert Lehmann, Jr., D. D. Towers, George W. Murphy, superintendent, Columbus Manufacturing Company; and A. E. Massey, superintendent, Exposition Cotton Mills, Atlanta, Ga. The questionnaire follows.

CARDING

1. Have you had any experience with opening machinery curling cotton? If so, are there any bad effects on the cotton from this curling? What have you done on the machines to reduce curling? State type of machine involved—whether horizontal, vertical opener, etc.

2. On single process picking: (a) Do you have less rejected laps due to variation in weight compared with your previous system? (b) Do you find your lap as free from motes and foreign matter as before? (c) Is it necessary to increase beater speeds or blows per inch, on single-process picking, in order to get the same results, as compared with your previous picking system? (d) On which system do you get the most uniform lap from yard to yard for the entire length of the lap? (e) What disposition do you make your laps on the single process which do not weigh within your variation limits?

3. What have you done to eliminate variation in the length of picker laps? (This applies to two- three- or single-process systems.)

4. What are the causes and remedies of split laps?

5. Have you tried the V-belt type of drive on doffer combs on cards? Is so, why and what benefits?

6. Having had another year's experience, what is your opinion now as to the practicability and preference of straight wire card clothing or metallic clothing, compared with regular wire? Any increase in their use? Also, if you have had experience with the continuous card stripper, what are your findings?

7. What results, good or bad, are obtained by slowing up card flats, say from 3 to 1¾-inch per minute? What results are obtained by speeding up the flats say from 3 to 5 inches per minute. (b) In trying to control card strips with stripper plate setting, and the plates give the effect of being "bucked," what method is used for straightening these plates?

SPINNING

1. Are non-oiling front and back saddles made of wood as good as the iron saddles which must be oiled? Is there any difference in the power consumed by frames equipped with the wood saddles?

2. In using calf-skin on spinning top rolls (a) what is your experience as to the advantage in life and cost; also as to the appearance and strength of the yarn, compared with sheep-skin rolls? (b) Do you use the same kind of roller cloth as you use with sheep-skin? If not, what do you use with the calf-skin? (c) Please report any experience you have had with cork rolls on spinning frames, as to life, strength and appearance of yarn, etc.

3. Why does a spinning frame generally run bad just after the spindles are oiled? How do you eliminate this trouble? How often should spindles be oiled, and with what kind of oil?

4. Several men have reported that frequently in making strength tests on yarn (from band-driven frames) the bobbins from some one certain spindle on a frame will break weaker on some parts of the bobbin, even on tests conducted over a period of several days. The fact that the same spindle produces the yarn from different days' roving, they say, would eliminate the probability that uneven roving caused this. The fact that the weak places show up in spots anywhere throughout the bobbin would eliminate the probability of the weight on the rolls causing it. Then, the trouble will disappear on any given spindle, to return again. Also, it is brought out, the spindle bearing (the base and bolster) seems to heat up and cool off without being oiled or having any adjustment. It is during the time that the spindle is hot apparently, that it makes the weak yarn.

We would appreciate your giving this kind of a condition thought and study, and giving your opinion and experience as to what could be the cause of this variation in break, the yarn number apparently remaining the same throughout the bobbin. Please make investigations

(Continued on Page 27)

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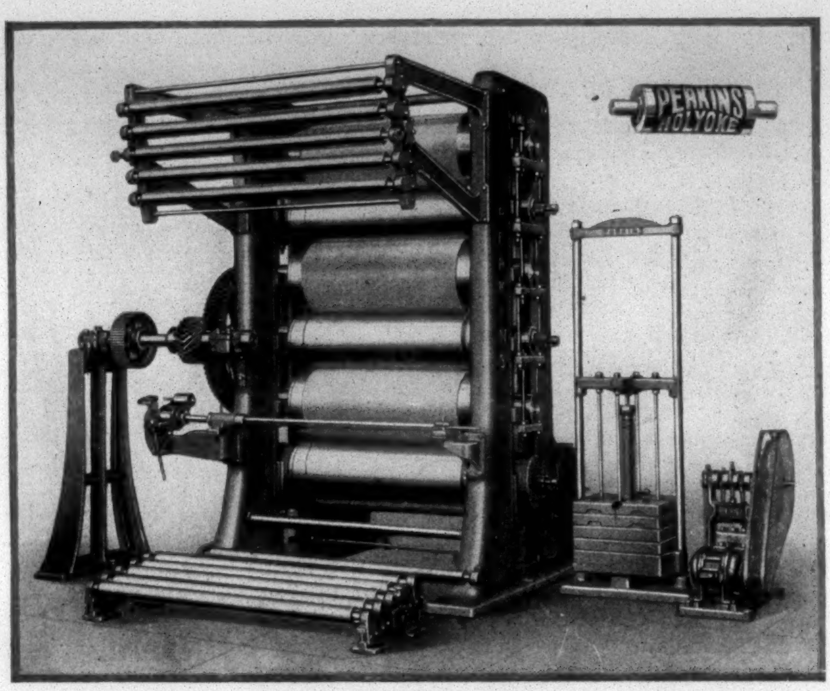

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A Discussion by Master Mechanics

MEETING at Boston under the auspices of the National Association of Cotton Manufacturers, master mechanics from a number of New England cotton mills discussed a number of questions pertaining to their work. Extracts of the discussion on several questions are given below:

Chairman: The first question is: "In the maintenance of plant buildings and machinery, what part should come under the direct supervision of master mechanic, and what part under the room overseer?"

Under the pressure of these times when high efficiency is expected from all the departments, the overseer of any room is going to look after the minor worn parts, and parts out of alignment and needing adjustment. Some of those minor repairs are taken care of by fixers, section hands, etc. When it comes to repairs or replacements called for outside the department, or heavy parts which are kept outside the department, it naturally goes to the shop. That is the rule in our place. I would like to hear from some of the others as to what are their customs.

When I speak of minor parts I mean the matter of changing studs or changing gears. Changing or replacement of rolls, or troubles which you have here with cylinder shafts, come under a shop problem.

In the weave room we know that the changing or replacing of parts or small attachments is taken care of by the fixers. When it comes to broken driving gears, frictions, crank shafts, or putting on new boxes of a heavy type, in some mills the fixers take care of that; in other mills, they do not. I personally would like to know where the line is generally drawn. I think you all must have times when the shop is called on to do things which they fell should be done by the fixers.

Member: Should it not be the rule that the fixer should do all he can, and then when it gets beyond him, he calls on the shop?

Member: I believe on light parts that should be so. When it comes to heavy parts, it requires a certain amount of fitting. Take driving gears, for instance, when you have occasion to be called upon to change top and bottom gears, a great many times you will find that most of the wear, or perhaps the breakage of that tooth is due to imperfect setting of those gears, perhaps when they were first installed. You may find that you have worn about half a tooth. It isn't good policy to change one gear that is broken if it has to mesh in with another in that condition.

The adjustments of your boxes immediately call for adjustments of either the cam shaft or crank shaft and should be done by the shop.

Member: In one mill I was in they told all the overseers that any bad breaks were to be reported to me. That did not work very well at first, but after a while when the overseers found that I was helping them, they came to me and said that it was a good idea. I was able to help them by advising them, they came to me and said that it was a good idea. I was able to help them by advising them and by doing the work, too.

Member: The mill where I am now is a small plant. We have 610 looms, the overseers work together very nicely, and we have good co-operation there.

Member: We have a system at our mill where all the maintenance work, piping, electrical work and repairs in the mill come under the master mechanic. He goes around and looks after those things, if they are not reported to him, he makes out a requisition slip for needed repairs. The requisition is given to the superintendent, and he looks it up, and if he wants it done, he gives an order to go ahead and do it. The repairs of machinery and parts comes more under the overseer. If he wants anything done, he sends us an order to come up and look it over, or tells us what he wants. Of course, we have a pretty good bunch of overseers who work together very nicely.

Requisition is Best Method

Chairman: I think the idea of requisitioning of orders is the correct way. Verbal orders can be misconstrued. They can be put off, and in the end nobody accepts responsibility. An order that is sent you direct from the overseer, explaining to you what he wants, places responsibility on somebody in the end, and I think it should be so.

Member: We have everything on requisition orders, and that makes it pretty good for the master mechanic.

Member: I think the last gentleman who spoke gave a very consistent and sensible picture of how the thing ought to work theoretically. The main structures, apparently, should be the job of the master mechanic. Whether he should be carrying on the inspection all the time, or simply have his attention called to apparent defects when they develop is, I suppose, a matter of administration. When it comes to the machinery, it seems to me that in one sense the overseer of the particular room in which the machinery is located must be primarily responsible to see that the thing is in working order and running properly. If he thinks that the adjustment can be made in the ordinary course of adjusting by a section hand, that is the promptest and quickest way of doing it. If he thinks it is beyond him, or will interfere with other work to the disadvantage of the running of the work in the room as a whole, it seems to be obvious that he must call on the master mechanic, either directly or through the superitnendent, and the master mechanic must come and help him out. They all must work together. There must be team work, but I think in any given room, the responsibility primarily should be with the overseer of that room, perhaps.

Inspection of Machinery

Chairman: Should a regular inspection of mill machinery be made by the mechanical department with reference to alignment and levelling, also as to mechanical and fit running condition?"

Member: I think that the alignment of things is quite necessary, and I think that periodical inspections are worthy. We had one experience in our mill. Our mill is of steel I-beam construction, with the exception of the top floor timbers. The looms are located on the top floor. A few years after we began operating the mill, we had trouble with the shafting, and trouble with the coupling bolts breaking. We found that the shafting was very much out of line, due to the warping and drying up and displacement of the roof timbers. It was necessary of course, to reline the shafting. We found that it was necessary in some cases to cut into the beams a little to get our alignment. After we got through we had no more trouble with broken coupling bolts. We thought that one cause of the trouble was the engineers put on the main shaft a series of balance wheels that weighed 1,200 pounds. It is a rope drive, and their idea, it seems, was that the balance wheels would help to keep the shaft in proper rotation and help the rope drive. That was our experience with that particular line. It began soon after we began operations, and I think that perhaps an early inspection of that line would have been a good thing for us.

CARING FOR GEARS

Now may I refer back to the original question of the paragraph. Our chairman spoke of repairs in the weave room, the driving gears particularly, and the top and bottom shafts. I think the suggestion of the gentleman who said that the section hand in charge there should handle it, was a good one. Of course, if he gets into trouble, then we have to help him out. We have two pulling machines that are not too heavy for one man to handle, and when the man in the department gets into trouble, we have two men who look after the weave room work, and they go and pull off the gears and help them out in that way. A loom fixer or a section hand is liable to let a set of gears run until they are practically ruined and worn out. That happens very often, and if a proper inspection was made and the gears were moved or turned a little so that the wearing wouldn't come in the same place all the time, it would help prolong the life of the gear. We are careful about that in our place. If we have a gear come in with the teeth badly worn in one particular place, know, of course, that the gear has run too long in one place, and we call attention to it. I think there are times when the master mechanic's attention should be called to those things, and he should make it his business to go and see the proper person about that. I think that co-operation is a good thing, of course, and if it is practiced, it helps both parties.

2—HED TO COME— — fibs mov

One gentleman spoke about the cylinders of the spinning frames. We all have some trouble with them, but we don't take any part in removing or bringing the cylinder down into the shop unless we are called upon to do so. Sometimes they do get into trouble and can't get the cylinder out, and then, of course, our men go up and help them. It is the same with other things through the mill.

OILING

Member: I would like to know what system you gentlemen use in oiling.

Member: In general in our mill the oiling of machinery is cared for by oilers in the departments. We found, particularly on looms, a lack of lubrication of gears. We use a grease there, and we have found in many cases that the necessity for renewal of gears was caused by lack of lubrication. All of our looms are individual motor drive, in which the friction gear and the motor pinion have to have periodical lubrication. This was handled by a man trained in the electrical department who used a compresed air system which applied a certain amount of grease through a small hole in the top of the guard. We found that we could combine the greasing of the driving gears on the looms with the greasing of the other gears.

This gave us much better service at a very slight additional cost, because we had the equipment handy. Breakage due to lack of lubrication has been practically nothing.

COSTS OF REPAIR JOBS

Chairman: We will take the second question. This reads: "What method do you use for determining actual cost of individual repair jobs? How is the work followed up to know that only a normal time is consumed in completing the job?" I suppose that most of you have some system that is pretty good, but I know in the old days the method of keeping track of cost of repairs and maintenance was to have a slate hanging up, and when noon time came, the man would figure out where he was during the forenoon—an hour here, and a half-hour there, etc. —and after the got through, if it didn't figure up five or six hours, he simply had to put it somewhere where he found it convenient. The same thing happened at night, and perhaps through the week. That gave an idea as to what the costs were as far as departments were concerned, but I don't believe that any great attempt was made to know what the individual jobs would cost so that they could be placed in types and they could say that such a type of job cost so much, so you would know accurately that it would cost that much. Today there seems to be the demand that the mechanical department operate in a methodical way, and have typical jobs on which accurate cost facts and figures and time factors can be figured. The excuse always has been when a call was made on the shop to make repairs, that nobody knew when he started in, what he was going to run into, and you couldn't give any special time that a man should use for a certain job. I think that it is the customer today when you find some particular thing going wrong, not merely to replace that with a new part, but to try to determine the cause and move it. That simplifies the amount of work necessary because the main trouble has been removed, and of course, the damage would be less. The fact that they are calling for a reduced stopping of machinery makes that almost necessary for the mechanical department to take seriously. Perhaps that trouble can be reduced by a different application of some of your parts which are continually breaking. Perhaps the part that breaks isn't

(*Continued on Page* 16)

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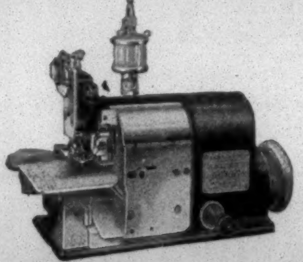

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PERSONAL NEWS

E. Zollinger has accepted the position of superintendent of the Pinehurst Silk Mills, Pienhurst, N. C.

Alexander Long, Jr., has resigned as assistant treasurer of the Arcade Mills, Rock Hill, S. C., effective March 10th and will enter another business at Rock Hill.

W. R. Tattersall, superintendent of the Eagle & Phenix Mills, Columbus, Ga., who has been very ill with pneumonia, is recovering rapidly.

J. D. Campbell, formerly second hand in spinning at the Aragon-Baldwin Mills, Whitmire, S. C., is now night overseer of spinning at the Henrietta Mills No. 1, Henrietta, N. C.

A. K. Buxton, Southern representative of the Baltimore Belting Company, Baltimore, Md., who has been undergoing treatment in a Charlotte hospital for the past ten days, is reported as being much improved.

S. A. Lovelace has resigned as superintendent of the Pinehurst Silk Mills, Hemp, N. C., to accept a position with the silk and rayon department of the Dunean Mills, Greenville, S. C.

Wm. P. Saunders has resigned as assistant superintendent of the Aurora Mills, Burlington, N. C., to become local manager for the Pinehurst Silk Mills, Pinehurst, N. C.

Charles Wolff, plant manager of the American Bemberg Corporation and American Glanzstoff Corporation, Elizabethton, Tenn., sailed this week for a business trip to Italy, France and Germany, where he expects to spend five weeks visiting the allied plants of these corporations.

About 150 people were guests of George F. Brietz at a Brunswick stew at the Selma Mill Village Sunday school building, Selma, N. C., last Saturday evening. Mrs. Reeves, of the Raleigh Methodist orphanage, was present with several children from the orphanage. A program was rendered by the children. Mr. Brietz, superintendent of the Selma Mill, has been superintendent of the school for a number of years.

Nelson C. Poe, Jr., has been elected president of the F. W. Poe Manufacturing Company, Greenville, S. C., succeeding his father, the late N. C. Poe. Mr. Poe, Jr., has been vice-president of the company for some time. C. Bruce Hagood, of the Glenwood Mills, Easley, has been elected vice-president.

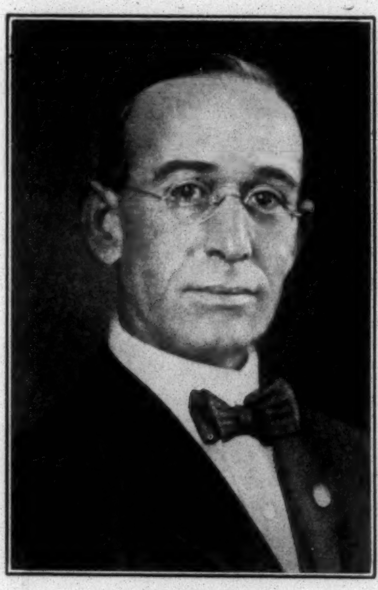
Robert H. Gaddy has been promoted to superintendent of the Magnet Mills, Inc. He is a son of C. W. Gaddy, superintendent and manager of the knitting department of the Wiscasset Mills, Albemarle, N. C.

C. A. Hamilton, of Charlotte, who has been connected with the Hunter Machinery Company for the past two years, has entered business for himself at Charlotte and has opened a large warehouse and office on the Wilkinson Boulevard. He has a full line of used machinery and supplies and has connections with one of the large machinery houses in New England. Mr. Hamilton is widely known throughout the South. He has been in the machinery business for the past ten years. Prior to that he was superintendent of a number of well known mills. Associated with Mr. Hamilton will be John E. Hamilton, his brother, who for the past 10 years has been with the Draper Corporation. Mr. Hamilton's address is Box 1355, Charlotte.

H. R. Fitzgerald Dies Suddenly

Harrison Robertson Fitzgerald, president of the Riverside & Dan River Mills, Danville, Va., and one of the leading mill executives in America, died suddenly at his home on Monday night. Death was due to anginia pectoris. Attending physicians ascribed the heart attack to a nervous breakdown incidental to strain of the recent prolonged strike at his mills.

As president of one of the most important mill groups in the country, Mr. Fitzgerald had long occupied a position of leadership in the textile industry. He was a past president of the American Cotton Manufacturers Association.



H. R. Fitzgerald

He had been directly connected with the Riverside and Dan River Mills, which were founded by his father for more than 40 years. He began work as an office boy at the age of 17 and 30 years later was elected president of the company.

Mr. Fitzgerald was born in Danville, February 27, 1873, the son of Thomas Benton Fitzgerald and Mrs. Martha Jane Hall Fitzgerald. His ancestors were a Colonial family which settled in Nottoway county. His education was in the Danville schools and at a boarding school in Culpepper county.

He was 17 years of age when he first became identified with the Riverside and Dan River Cotton Mills to the presidency of which he was to arrive in more mature years. His first job was that of an office boy under the tutelage of his father, one of the co-founders of the mills. During the 40 years of his mill association he went through all of the mill processes.

He was director and vice-president of the Dan Valley Flour Mills and he was a director of the First National Bank. He was one of the leading laymen of the Virginia Methodist conference and at the time of death a member of the board of stewards of Mount Vernon Methodist church in which he had been interested almost since its establishment. For many years he taught one of the men's bible classes known as "Class Twenty."

He had headed Community Chest drives, and was one of its largest contributors. During the world war he served on two national committees, the War Industries Board and the Virginia Executive Committee of the Liberty loan drives. He was a trustee of Emory University in Atlanta, Ga., and the Ferrum Training School, a Presbyterian school in Franklin county. He was a member of Washington Lee University chapter of the

(*Continued on Page 22*)

PERFORMANCE
shows the value of this New
Warp-Saving Finish

"In our tests we have found the part played in quality and production and therefore use Emmons *Chafeless Cord* Harness," says Mr. Tobin.

PERFORMANCE
MILL: BUTLER MILL, New Bedford, Mass.
FABRICS: Plain and fancy weaves, voiles, broadcloth, lawns, crepes, handkerchiefs, marquisettes, silk and cotton mixtures.
LOOMS: Draper, Fancy and Box, 2,737
HARNESS: Emmons CHAFELESS CORD, with Special Warp-Saving Finish

J. E. Tobin, *Supt.*
Butler Mill

SUMMARY

"We are everlastingly striving to improve our efficiency, particularly the quality of our fabrics. We have tried," says Mr. J. E. Tobin, Superintendent of Butler Mill, "to accomplish this through research and regular tests."

"In our tests," continues Mr. Tobin, "we have found the part that harnesses and reeds play in quality and production; therefore, we are using Emmons 'Chafeless Cord' harness and Multiple Air Space Reed."

Mr. Tobin is widely known for the standards of quality and the constantly improved efficiency with which weaving at Butler Mill is done. His tests are deemed by authorities to be most exacting and highly productive of results in improving efficiency.

Something of the magnitude of the research and testing at Butler Mill may be grasped from the variety of fabrics, and from the fact that Mr. Tobin has been enabled to determine with exactness the percentage of warp breaks, filling breaks, and breaks due to looms out of order, to total of all loom stops. This, for all classes of weaving and under all conditions at the mill.

In these tests, *Chafeless Cord* has again demonstrated the part it is playing in the improvement of weave quality, the greatest source of loom stops, warp breaks.

This is the harness specifically designed to diminish warp breaks, to reduce the number of loom stops per weaver, and to increase the daily pick count. With it, mills operating a total of over 50,000 looms are achieving both quality and continuous loom operation.

This, largely through super-smoothness of the special warp-saving finish. To attain this finish, we lay flat the tiny fibres of the harness cord with a special preparation. Then we apply five coats of varnish cut with pure turpentine. Each coat must be baked eight (8) hours at 175 degrees F. Then we apply a humidity proof overdressing to help retain smoothness and flexibility.

This process gives you *Chafeless Cord*, the Tri-Color harness. It has proven to be the fastest selling cotton harness made today. In the first six months of 1929, Chafeless Cord was 26.37% of total biers made; in the first six months of 1930 it had risen to 33.25% of total biers.

This because of the Special Warp Saving finish with super-smoothness. In this way, Chafeless Cord reduces loom stops from warp breaks and signally improves efficiency.

SUPER-SMOOTH Chafeless Cord

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A Discussion By Master Mechanics

(*Continued from Page* 13)

at fault at all. Perhaps it is something else, and perhaps that trouble could be rectified and the other fault reduced, and also, in rectifying that, you have simplified the type of repair to a large extent, which reduces the time consumed in carrying it out.

I know that some mills have gone so far as to put in efficiency men to make a study of the type of repairs and the causes. They determine the amount of time that should be consumed, to get away from the idea that every job varies, and try to make a typical job where a certain amount of time can be allotted to it. For instance, if a certain job is laid out as a three-hour job, and a man takes four hours, you want to know why. If he has a reasonable excuse, nothing is said about it. I would like to know how far any of you men have gone in any scheme or method of laying out work in advance and being able to keep costs of the different jobs that are similar?

Member: We have the Gantt system, installed some fifteen years ago, and it is very satisfactory from the point of view of the cost department, but I wish the shop were closer in touch with the actual cost. Every department has a symbol. A requisition is written in duplicate, one to the shop and one to the cost department. Every mechanic who goes on a job is given a card, stamped with the time he starts, and this card is stamped when he comes back. These are sent to the cost department and summed up, and at the end of a job they know what it costs. Of course, we can go and find out by asking them, but we don't keep in as close touch with them as I wish we did. I would like to know if anybody has a scheme that is a litte more intimate.

Chairman: Is this requisition stamped through a time clock?

Member: Yes. Each mechanic is given a card stamped with the time of his coming and going, so the sum of the time is very accurate.

Chairman: Is the amount of material placed on the same sheet?

Member: Yes, there is a separate card for the stock issued, which bears the symbol number of the job. They all go to the cost department and are summed up. They have a very accurate record there.

Chairman: The next question reads: "Economy of systematic overhauling of looms, replacing of worn driving and other major parts, as against repairs made on order due to breakage or other unfitness. Also, is a system of this sort applicable economically to spinning mill machinery?" The point that is brought out there applies particularly to machinery after it reaches a certain age, perhaps fifteen or more, in which regular repairs have been made on order, due to breakage, worn parts, etc., and as the time goes on, it reaches the point where it might be a good policy to make a general overhauling of that loom, replacing the worn parts.

Member: I don't know how far any of you have gone into the matter of systematic overhauling of machinery after it reaches a certain age, but I do know this, that at our plant, mostly broad looms, we found that as year after year went by, we were getting so many orders that it would necessary to be constantly increasing the shop force to take care of them. We found on keeping a record that we were going back to the same loom within short periods of time, not for the same repairs, but for replacing something else connected with it. We started in to make a general overhauling of the driving end of the looms, replacing frictions, driving gears, and adjusting and setting the boxes to give proper mesh to the gears. We have found after a period of three years, and over hauling some 1,600 of those looms, the total orders from the weave shed for repairs, that 75 per cent of our repair orders were on looms that were not overhauled. That is, on 1,600 broad looms, 20 per cent of our orders were on repairs. Some 26 per cent covered about 800 of the same type of loom, and 50 per cent covered narrow looms on which no overhauling had been done. This meant that if we continued going through our looms on this basis, that 800, which is now 26 per cent, should represent about 10 per cent, and the narrow should drop from its present figure to 25 per cent, all of which would mean less labor in the mechanical department to maintain the normal repairs afterward. You might say that you have thrown away good material in which there was considerable service left, but where they are demanding higher efficiency from those looms, we feel that the cost is more than offset, particularly when those looms are giving us 95 per cent production. You not only get your production, but you get a better running loom. You make it possible to make a better adjustment, which isn't always possible with uneven worn parts, and we feel that it is of enough value in reducing the labor needed in the shops to continue right through.

ROLLER AND BALL BEARINGS

The next subject is: "Have babbit bearings been superseded by roller or ball bearings?" We know, of course, that ball bearings are meeting with great favor. I would like to know what some of you have done, particularly on roller bearings, and what your personal opinion is regarding rollers over ball bearings in some applications. There are certain applications, I believe, where a roller bearing is preferable.

Member: We are using roller bearings on all line shafting, but on machine bearings where we can use ball bearings, we put them in.

Chairman: Has anybody applied ball bearings or roller bearings to higher speed shafting in the mill?

Member: We changed our beater bearings on our pickers to ball bearings, and the results were wonderful. They run 1,500 or 1,600 revolutions, and are quite heavy. They changed conditions all through the pickers. We found that a lot of trouble that we thought we had from the gears getting noisy was all changed after the ball bearings were put in. We have the ring bearing type all through the mill on the shafting.

Chairman: Didn't you also find less trouble from oil on the cotton?

Member: Yes. We got grease fittings for the ball bearings, and when they were properly applied, we found a great difference.

Chairman: We have ball bearings in all our picker beater shafts. We tried out one roller bearing, and while it ran good, and didn't make any noise, it ran considerably warmer than the ball bearings. We felt that the ball bearing was the better type to use there.

Member: We had a troublesome condition with our twisters. We tried the ring oilers, babbitted, at 1200 revolutions, then we adopted the ball bearings, and everything has been all right since. We also have ball bearings on the picker beaters.

Chairman: We applied ball bearings to the shaft from which we drive our warpers, and there isn't any question in my mind about the saving of power, as a man can get up there and turn with his finger a line of shafting 150 feet long. There isn't much friction there, and the methods of oiling are much simpler, because it is a matter of greasing about once in six months. The dripping of oil is unknown.

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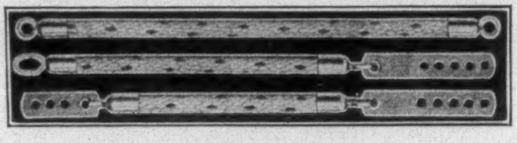

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Increased Orders With Decreased Profit

A letter received this week from one of the most prominent cotton manufacturers in the South, contains the following statements:

> Subject: Your editorial "Get Profit Minded."
>
> As I read your editorials each week, and have an increasing admiration for your fearlessness and clear thinking, I wish often that I could see you and talk over textile matters with you.
>
> From enclosed figures, covering print cloths of every character, you will note that in October, 1929, when there were unfilled orders of 121,868,000 yards, against a stock of 79,795,000 yards, there was a margin between cotton and cotton goods of 19c.
>
> The following July, when the stocks and unfilled orders were practically reversed—there being 133,467,000 yards on hand, as against unfilled orders of only 77,827,000—this manufacturing margin shrank to 14.1c, or 4c to 5c below the cost of production.
>
> Last week's figures, you will note, show the strongest statistical position since March and April, 1929, there being now less than 63,000,000 yards of print cloths of every character on hand, with unfilled orders of nearly 159,000,000 yards.
>
> Yet, in the face of such a strong statistical position, the margin between cotton and cotton goods is only 15.4c, or practically 4c per pound less than in the fall of 1929, when the statistical position was not as strong, and when cotton was relatively high—the price being 6c above today's values of less than production costs.

We also note the following from the statistics of narrow sheeting:

Week ending	Ratio of Sales to Production	Gross Manufacturing Margins
Nov. 29, 1930	55%	10.8c
Dec. 6, 1930	63%	10.6c
Dec. 13, 1930	57%	11.3c
Dec. 20, 1930	38%	10.3c
Jan. 24, 1931	116%	9.0c
Jan. 31, 1931	139%	8.8c
Feb. 7, 1931	132%	8.2c
Feb. 14, 1931	173%	7.9c

These statistics show that when mills were selling from 38 per cent to 63 per cent of their production the manufacturing margin was from 10.3 to 11.3 cents, but when the demand raised sales to 173 per cent of the output the manufacturing margin dropped to 7.9 cents.

As the demand and sales both in print cloths and narrow sheeting increased, the margin between cotton and the net sales price has decreased or in other words prices have weakened as the demand has increased.

We said last week that "the greatest need of the textile industry was a few funerals or resignations, preferably the latter," and if any New York banker was told that Southern mill managers sold sheeting with a manufacturing margin of 11.3 cents when sales were only 57 per cent of production and then when sales rose to 173 per cent of their output reduced prices so that the manufacturing margin was only 7.9 cents, he would say that our statement was fully justified.

We doubt if there has ever been in the business world a better illustration of "jelly-fish" backbones and poor merchandising.

The letter from which we quoted above, also contained the following paragraphs:

> The only justification given me as to such a situation is the fact that a comparatively small group of mill treasurers are, by running day, night and overtime and cutting their wages, producing goods at a lower cost per pound than goods can be produced by equally well managed and equally well equipped mills, who, recognizing the absolute necessity of balancing production with consumption, are trying to avoid further day curtailment during the coming summer by the elimination of night operation.
>
> These men are simply "hogging" the market by constantly selling for forward deliveries at cut prices, completely dominating the market and hiding behind a camouflage of providing employment, and "survival of the fittest," when, in reality, it is only survival of the selfish.

We asked a prominent commission merchant, last week, why prices were declining in the face of an increase in demand and he said that the fault was not with the selling agents.

He said that the commission merchants had, several times, held meetings at which all expressed a desire and intention to hold for higher prices, which could easily be obtained, only to have their plans disrupted by certain Southern mill men who demand that goods be sold even if prices had to be cut.

Can any man read the above facts and say that the textile industry is not at a critical point and that its immense investment is not in danger?

Self-preservation is the first law of nature and efforts for self-preservation are always justified.

The time for courtesies and soft words has passed. It is time for men with backbone to arise and act.

Union Deserts Strikers

On October 22nd when it was well known to the union organizers that the strike at Danville, Va., was lost, the following statement was issued by their publicity bureau:

> C. W. Bolick, organizer in charge, denied reports of financial difficulties. Buford Nash, president, stated that time is required to get results from the action of the American Federation of Labor in endorsing the strike and pledging financial support. Nash assured the strikers that they will be taken care of and asked their patience until relief machinery starts functioning. Francis J. Gorman, vice-president, who is expected to arrive with a considerable sum for relief, had not returned to the city late today.

All of the above was for the purpose of stalling the workers. They knew then that no material amount of relief funds would be furnished and that their statements assuring relief would cause much suffering among those who had followed them.

Just as soon as the strike was over and the prospect of forming the Danville mill employees into a dues-paying organization had vanished we note the following from Danville:

> The local textile union today turned over to the American Red Cross the task of caring for needy textile families. They state that the union is not now in a position to continue to feed former strikers. Police said workers have expressed considerable bitterness over the outcome of the strike, which they claim, brought them no benefit, but made them paupers.

The leaders of both the American Federation of Labor and the United Textile Workers promised the strikers everything when they thought they saw the chance of creating a dues-paying organization, but cruelly cast them aside and refused to aid in feeding them just as soon as the strike ceased and there was no further hope of establishing at Danville a situation which would be profitable to the union treasury.

If those who went upon the strike will recall the many promises and assurances made by the professional organizers who induced them to strike and will contrast them with the actions of the American Federation of Labor and the United Textile Workers in leaving them to starve the minute the strike is over they will realize how badly they have been duped.

Many of those in the families of the deserted strikers are sick and they were left without means of obtaining food and it is fortunate that the American Red Cross has been able to assist.

If those who were induced to strike and have now been deserted would bring suit against Wm. Green and the American Federation of Labor we believe that any jury would, upon learning the facts, award heavy damages.

What Are They?

President Henderson, of the Yale Chapter of the American Association of University Professors said recently:

> Forces beyond their control are driving university professors to the status of employees and are forcing them to the point where they must form a union.

College and university professors are employed by the Boards of Trustees of such institutions and we would like to know why they are not employees.

The cashier of a bank is an employee of the bank, the treasurer of a cotton mill is an employee, but a man who is hired to perform a certain function in a university says that he is not an employee.

They were employed and they draw salaries as employees but they say that they are not employees. What are they?

If the bank cashier or the cotton mill treasurer is found incompetent he loses his job, but it is so extremely difficult to check up on a professor that he seldom loses his position for that reason.

There is no other position in which an incompetent man is so secure.

The college professors draw their salaries but say that they are not employees and threaten to form a union to keep from being graded as employees.

The object of a union is to do collective bargaining with employers and as they deny that they have any employers we wonder with whom their union will do collective bargaining.

H. R. Fitzgerald

The sudden death of H. R. Fitzgerald, president of the Riverside & Dan River Mills, Danville, Va., removed from the textile industry one of its ablest men and keenest minds.

Mr. Fitzgerald served for many years as president and treasurer of one of the largest and most successful cotton manufacturing establishments and also served as president of the American Cotton Manufacturers Association.

In spite of the statements made by union leaders, during the recent strike, Mr. Fitzgerald was a humanitarian and had a deep interest in the welfare of his employees.

He built comfortable homes for them and a wonderful home for single women as well as a Y. M. C. A. and a recreation hall. In order to give his employees an opportunity to express themselves he organized a form of Industrial Democracy which functioned satisfactorily for many years.

He was one of our strongest friends and supporters and we deeply regret his passing.

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MILL NEWS ITEMS

HIGH POINT, N. C.—The Melrose Hosiery Mills here announce that the company has taken offices at 93 Worth street, New York city, with W. A. Burton in charge.

DARLINGTON, S. C.—The Darlington Manufacturing Company has purchased oil spraying equipment, and will install the Breton minerol process, furnished by the Borne Scrymser Company.

GASTONIA, N. C.—The Priscilla Spinning Company, manufacturers of fine thread yarns, have placed orders with Borne Scrymser Company, for their new model oil spraying equipment.

TELLICO PLAINS, TENN.—Tellico Cotton Mills Company has resumed a full-time operating schedule, employing both day and night shifts. The mill had been idle for three years until last August, when the building and machinery were repaired. J. O. Blackmon is vice-president and general manager.

COLUMBUS, GA.—It is reported here that the Eagle & Phenix Mills, manufacturers of colored piece goods, ball thread and cotton rope, may begin the shrinking of their products. However, no definite plans have been made, it is understood. Many of the customers of the various Southern textile manufacturing plants are asking for pre-shrunk products and many of the mills are installing equipment for this purpose.

ASHEVILLE, N. C.—The Asheville Hosiery Company has authorized an addition to its plant that will double capacity, R. G. Hoch, plant manager, announced. An outlay of $90,000 will be represented in the addition. The building will be two-story, of brick, steel and glass. A dyeing and finishing department will be provided as well as additional floor space for knitting machines. More than 100 additional employes will be placed on the payroll. R. T. Rogers, of Philadelphia, is president of the company and D. R. Baer, of Asheville, treasurer.

WOODRUFF, S. C.—Announcement has been made here that beginning next week the women operatives of the Woodruff plant of the Brandon Corporation will don cotton uniforms while at work in the mill. The cloth manufactured at this plant not being suitable for the dresses an order for 1,000 yards was received here by J. N. Smith, superintendent of the local plant, from another branch of the Brandon Corporation, the Renfrew plant at Travelers Rest, which has a dyeing and finishing plant. This cloth was sold to the operatives at a nominal price. Plans are also being discussed in regard to the operatives wearing cotton hosiery also.

GREENVILLE, S. C.—All directors and officials of the Southern Bleachery and the Piedmont Print Works, at Taylors, were re-elected at the annual meeting of stockholders held there.

No business of outstanding importance was transacted. Reports of the merger started last year and other events being received. The year was only a fair one, it was reported, the depression being felt by these plants along with many others in this section.

MILL NEWS ITEMS

ASHEVILLE, N. C.—Asheville Weavers, Inc., has been granted a charter by the North Carolina Secretary of State to manufacture and sell homespun fabrics of all kinds. Authorized capital stock 350 shares, of which 250 will be preferred stock of par value of $100 each, and 100 shares of common stock of no par value. The incorporators are: Alvin S. Kartus, Parham Kelly and Richard Bowman of Asheville.

CHESTER, S. C.—Formation of a $1,000,000 cotton mill corporation, at Chester, was announced upon filing with the Secretary of State a statement of merger of the Eureka and Springstein Mills. Plans for the merger were announced some time ago.

Col. Leroy Springs is president of the new corporation, and H. S. Adams is secretary. Directors are Colonel Springs, Elliott White Springs, his son, H. S. Adams, A. H. Robbins, and H. R. Rice. The same board of directors served separately for each of the mills since they were combined.

BREVARD, N. C.—Sufficient funds have been subscribed to insure the re-opening of the Sapphire Mill here, and it is expected that operations will be resumed in the near future.

The Brevard committee which did the work on the plans to re-organize the mill and resume the operations was composed of T. W. Whitmire, O. L. Ervin, A. H. Houston, H. A. Plummer, F. E. B. Jenkins, H. E. Erwin, and J. H. Picklesimer. J. J. Silverstreen, of Brevard, was the first to propose the re-organizations for the project.

George Norwood and B. E. Greer, of Greenville, have been interested in the project and the latter may serve the plant in an advisory capacity.

The Sapphire Mills have an equipment of 6,100 spindles and were formerly operated on 50s combed peeler yarns. The affairs of the company have for some time been in the hands of H. E. Erwin, receiver.

LAURENS, S. C.—The Watt's Mill's stockholders convened in their annual meeting, at the offices of the mills here and elected the following directors: W. A. Watts, R. E. Babb and George H. Blakely, all of Laurens; J. E. Sirrine, R. E. Henry, and R. G. Emery, all of Greenville, S. C.; R. T. Stevens, of New York, and Nathaniel Stevens, of North Andover, Mass.

At a meeting of the directors, the following officers were elected: R. E. Henry, president and treasurer; W. A. Watts, vice-president, and C. S. Link, Jr., secretary and assistant treasurer. This plant is operating on a 55-hour-a-week daytime schedule.

KINGSPORT, TENN.—Tennessee Eastman Corp., a subsidiary of Eastman Kodak Co., Rochester, N. Y., has let contract to Ridge Construction Corp., Rochester, N. Y., for construction of new unit for manufacture of cellulose acetate yarn, designated as Building No. 58; contract covers building only and is exclusive of plumbing, lighting system, sprinklers, elevators, etc.; 10x580 ft.; part 4 story; steel, reinforced concrete and brick; equipped for annual production of 2,500,000 pounds yarn; construction work under supervision of S. A. Campbell, president of contracting company; construction to begin in March, expected to be ready for operation in October.

HERMAS

Shears that are fully automatic allowing one operator to run a battery.

Ball bearing throughout with Zerk System of Lubrication.

Patented suction draws all loose ends from selvages into knives, without aid of brushes.

Brushes provided when required to clean OFF LEAF AND MOTES

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Southern Representatives:
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Uniform dyeing day after day

THEY were having trouble in getting uniform dyeing at a certain Southern hosiery mill. Shades would vary, and at heels and seams penetration was poor.

But now, all difficulty has been eliminated. The addition of a small quantity of Oakite to direct dye formulas was all that was necessary. Goods come through absolutely uniform in color, day after day. In addition, far deeper penetration is obtained than before.

Such results are obtained consistently in mills where Oakite is used. Find out more about this effective economical material. Our nearby Service Man will be glad to show you what it will do. Write and ask to have him call.

Oakite Service Men, cleaning specialists, are located in the leading industrial centers of the United States and Canada

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OAKITE PRODUCTS, INC., 38 Thames St., NEW YORK

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WEIGHTING

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W. C. Gibson Griffin, Ga.
W. L. Cobb Greenville, S. C.

BOIL-OFF OILS
SOLUBLE OILS
DYBOL
RAYON SIZE

H. R. Fitzgerald Dies Suddenly

(*Continued from Page 15*)

Kappa Sigma fraternity and was a member of the Danville Gold Club and the Tuscarora Club.

During recent years Mr. Fitzgerald had been a conspicuous figures in the textile world and the Riverside and Dan River Mills built up a large reputation not only for the character of its products but also for the welfare work which it did. The adoption twelve years ago of the principle of industrial democracy was watched with considerable interest throughout the country because it was the largest industrial plant in America subscribing to the principles of John Leitch.

Industrial democracy was instituted in 1919 or one year after Mr. Fitzgerald had been made president of the mills.

He was married to Miss Ida Lee Flippin on November 9, 1892. She survives and four daughters, Mrs. Fuller Hill of Durham, N. C., Mrs. Russell Gant of Raleigh, N. C., Misses Harriett and Ida Fitzgerald of Danville.

Funeral services were conducted on Wednesday morning from the home. The mills were idle during the day as a tribute to Mr. Fitzgerald and all business in Danville was suspended during the funeral service.

OBITUARY

E. A. RUSDEN

Providence, R. I.—Ethelbert A. Rusden, 72, president of the Textile Finishing Machinery Company, died recently in St. Agnes' Hospital, Baltimore, Md.

Although in ill health for more than a year, Mr. Rusden only recently went to Baltimore for treatment. He was born in Manchester, England, and came to this country in 1887 as a representative of Mather & Platt, English machine manufactures.

Soon after landing here Mr. Rusden became associated with the Lincoln Machine Company, of Hartford, later becoming an official of the firm of Lawrie, Buchannan & Rusden, which he and associates founded. The firm dealt in dyestuffs and chemicals and did business in New York.

In 1899, Mrs. Rusden established the Rusden Machine Co. in Warren and three years later consolidated with three other machine manufacturers, the Granger Foundry & Machine Co., the Thomas Phillips Co. and the Phenix Iron Works, all of Providence.

Mr. Rusden wás president and general manager of that firm for many years. Oother organizations to which he belong are the American Society of Mechanical Engineers, the Providence Engineering Society, the Turk's Head Club, the Squantum Club, the Quequechan Club of Fall River and the Rhode Island Country Club.

MRS. JOHN F. LONG

Friends of John F. Long, superintendent of the Laurel Mills, Laurel, Miss., will learn with much regret of the death of Mrs. Long on February 18th. She died suddenly from an attack of apoplexy. Mrs. Long was one of the best known and most loved women in her community and a leader in many activities in Laurel. She was 55 years of age. Funeral services were held at Belton, S. C.

Plan Meetings of S. T. A.

The Southern Textile Association has announced the following tentative schedule for spring meetings:

Weavers' Section—March 20th—Manufacturers Club, Charlotte, N. C.

Carders' Section—April 3rd—Calhoun Hotel, Anderson, S. C.

Eastern Carolina Division—April 17th—State College, Raleigh, N. C.

Master Mechanics' Division—May 8th—Parker District School, Greenville, S. C.

Annual Meeting—June 12th and 13th—(Place to be announced later.)

ALL STEEL ECONOMY FIRE PROOF BALING PRESSES
ALL SIZES FOR ALL PURPOSES
LARGEST LINE BUILT IN U.S.A.
ECONOMY BALER CO., DEPT. ☐ ANN ARBOR, MICH., U.S.A.

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Here's a Roller Leather you can depend on

satin-smooth, tough, resilient, firm

HONESTLY tanned, properly finished, and carefully applied sheepskin has been the one reliable top roll covering for more than a hundred years. The experimenting was all finished a century ago, about the time Great-Grandfather Gill was learning the business. Since then the Gills for three more generations have specialized in the manufacture of Roller Leather.

Gilleather yields more perfect cots per skin, and each cot gives longer service. When properly applied they do not turn on the rolls or split; do not flute, rough-up or harden. You get *even* yarn, fewer breaks,—better production and better profits for owner and operative.

Let us send samples for you to test. You will be convinced that "after all, nothing takes the place of Leather"—Gilleather.

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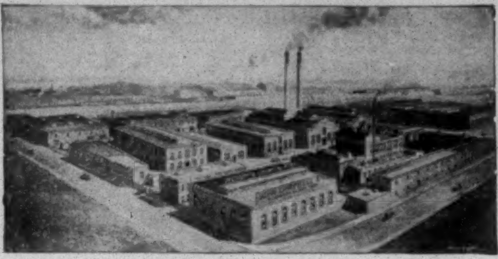

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The super-sulphonated, soluble castor oil—neutral or acid resisting—high SO3 content—free from sediment and precipitation.

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The ideal softener for finishing cotton piece goods—contains no animal fat—purely vegetable; soluble and odorless.

SOLUBLE WAX

The paraffin wax finish in soluble form—combines readily with oil, gum and starch—produces a superior lustrous gloss.

RAYOSOL

For scouring rayon and rayon-cotton knit and piece goods—removes oil stains, dirt, wax, etc. Used also for wetting out and dyeing.

"Standards Everywhere"

JOHN CAMPBELL & CO.

Established 1876

American Dyestuff Manufacturers

75 Hudson St. New York, N. Y

Textile Situation Discussed By Roddey

(*Continued from Page* 3)

living in this country. The cotton-textile manufacturer who has the proper emotional equipment will always feel that he is a failure just so long as there is a single man in the United States unable to provide himself with a clean shirt, or as long as there is a single home without its proper equipment of clean, sanitary and comfortable cotton goods. We must be interested in these people not because we want to sell them and thereby make a profit, but because we really want them to have what they should have. We must not ask any woman to sacrifice her attractiveness to provide prosperity for cotton mills. We must study the wants of our people and provide for them in a way that will cause them to use our cotton goods eagerly and enthusiastically.

There is no doubt in my mind but that the cotton-textile industry is so far from the saturation point that it will take years of constant endeavor to properly develop the field. As long as the cotton textile workers and the cotton growers are not properly supplied with the goods they help produce we have a field of endeavor that should be of intense interest to every man in the cotton-textile industry.

EXPANDING THE MARKET FOR COTTON

However, in spite of the unfavorable conditions prevailing all over the United States and in many other countries, the cotton-textile industry has made real progress in the past year. The accomplishments of the Cotton Textile Institute and of the Durene Association of America are too well known in this cotton-textile center to call for extended comment. The Cotton-Textile Institute has featured the stylishness of cotton goods in a way that has caused more cotton garments to be sold during the past year than in many years previous. The Durene Association of America, supported in large degree by Gaston county mills, has standardized mercerized yarns spun from long staple cotton so that purchasers of goods made from Durene may have the satisfaction of knowing that when they buy goods marked "Durene they have the finest quality the industry can provide.

However, we must not be satisfied with the progress already made, for this is simply an indication of what can be accomplished. Both cotton manufacturers and cotton growers have, I am very much afraid, been putting the major emphasis upon policies of restriction instead of exerting themselves to develop outlets for their products. That this is correct is shown by the remarkable growth of the manufacturing of synthetic yarns. The output of synthetic yarns in the United States alone has doubled in the past four years, and the total world production of synthetic fibres is equivalent to approximately one million bales of cotton. I am told by a reliable dealer in long staple cotton that synthetic fibres have already displaced approximately five hundred thousand to six hundred thousand bales of high grade cotton. This is a condition that would not exist if our cotton growers and cotton manufacturers had placed the major emphasis upon developing outlets instead of restriction policies.

Please do not mistake me in this respect. I recognize the necessity of balancing production with demand, but it is a policy that must not be regarded as permanent. For the immediate future, both cotton growers and cotton manufacturers are going to have to maintain a policy of reduced production, but that should not deter them from making plans to put their products before the public in a much larger way than anythin ever attempted in the past.

We have demonstrated here in Gastonia and in Gaston county that the public can be interested in cotton. Our people are thinking and talking cotton as never before in the history of this community. The Gastonia Woman's Club, together with the co-operation of the Gastonia Chamber of Commerce, has vividly brought to the attention of the public in this community the fact that we are dependent upon cotton growing and cotton manufacturing, and that it is necessary that we patronize our own products. These splendid women have created a demand for cotton goods that simply did not exist a year ago in this community, and as a consequence our merchants are displaying finer grades of cotton goods than at any previous time and are co-operating with the public in every possible way towards supplying them with high grade cotton goods.

ADVERTISING IS NEEDED

When we take into consideration the fact that the cotton crop has a money value of something like one billion dollars, we realize how small our efforts to promote cotton have been. If the silk growers of Japan can afford to spend seven hundred and fifty thousand dollars per annum for the next five years to promote the use of silk in the United States, then the cotton growers must realize that it is time for them to join hands with the cotton manufacturers and promote cotton on a larger scale. The cotton growers can do even more than the cotton manufacturers. If as small a levy as ten cents per bale is provided, a fund of approximately one million five hundred thousand dollars for promotion and publicity will be obtained. If our cotton growers could see the futility of relying upon government help to bring about better conditions and would set to work in earnest to cooperate with the cotton manufacturers, I sincerely believe they would improve their condition a great deal within the next two or three years. But our manufacturers must and should take the lead. Proper advertising of cotton and the "Wear Cotton" and "Use More Cotton" ideas offers a vast field for fine leadership.

After all is said and done, man lives by inspiration and aspiration and not upon the curtailing of his activity. We are all inclined to take the line of least resistance when we get into trouble, and to curtail our activities either as cotton growers or cotton manufacturers without making a more serious effort to promote our products simply opens the way for our competitors to step in and take the business we might have had.

Dyeing of Satins

(*Continued from Page* 5)

pressures, which would result in higher temperatures, glazing is liable to occur. It should be added that the blanket pressure on the cylinder should be at a minimum for the finish required, particularly when there is considerable moisture, in order to avoid glazing. In many cases these pieces are finished on an open stentering machine fitted with steam-heated gill pipes. This method requires care, due to the unequal drying which will result in patchiness, water marking on the taking-up roller, and burst selvedges, particularly if there is not a steam-heated coil immediately below the chain race running the whole length of the machine, the object of which is to keep the clips warm, prevent condensation and dry the selvedges. Gas-heated drying apparatus on the stenter should be avoided."

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Uniformly High Quality
Particularly Effective in Mercerizing Operations
Ask for our descriptive leaflet

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Mercerized Yarns and Fabrics Shown On Educational Chart

Mercerized cotton yarns and types of fabrics manufactured from these yarns form the basis of an educational chart which the Durene Association has prepared for educational directors of department stores, home economics and clothing specialists, State club leaders, home demonstration leaders, and others interested in educational work. The chart, bound so tha tit can be carried conveniently or hung on a wall, was prepared under the direction of Grace Walton, of the association.

Hose Measurement Now Standardized

Standard measurements on the folded cuff lengths of boys' golf hose and children's seven-eighths length hosiery have been prepared by the research associate of the National Association of Hosiery & Underwear Manufacturers at the Bureau of Standards, Washington.

These standard measurements have been officially approved by the board of directors of the National Association, it is announced by John Nash McCullaugh, managing director.

The new standards are shown in the following table:

Sizes	*	Sizes—	†
6— 6½	3.0-in.	6— 6½	2.5-in.
7— 7½	3.0-in.	7— 7½	3.0-in.
8— 8½	3.5-in.	8— 8½	3.0-in.
9— 9½	3.5-in.	9— 9½	3.5-in.
10—10½	3.5-in.	10—10½	3.5-in.

*Boys' golf hose, proposed standard cuff length. †Children's ⅞ hosiery, proposed standard cuff length.

A tolerance of one-quarter inch, plus or minus, is allowed from the figures given in the table.

Method of measurement is as follows: The length of the cuff shall be measured on the stocking with the cuff folded ready for packing. The stocking shall be laid out flat without tension on a smooth surface. The length of the cuff shall be the distance from the top to the bottom of the folded cuff measured at the center in a line parallel with the front line of the stocking.

Advantages to be derived from the adoption of these standards may be summarized as follows:

1. The satisfaction of the consumer.
2. The fixing of a definite practice within the mill.
3. Formation of a better basis of agreement between the manufacturer and buyer, thus eliminating one more chance of misunderstanding.

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Cloth Room Overseer Wanted

Wanted to engage a first class cloth room overseer; one who is familiar with sheetings and drills. Satisfactory pay to the right man. Apply to C. H. Cole, manager, Opp Cotton Mills and Micolas Cotton Mills, Opp, Ala.

WANTED—Position as master mechanic. Nine years with one mill. Best references. D. T. E., care Southern Textile Bulletin.

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We are manufacturers of Houghton's Absorbed Oils and VIM Mechanical Leathers—a total of over 400 products.

E. F. HOUGHTON & CO.
P. O. Box 6913, North Philadelphia, Pa.

Carding and Spinning to Feature Georgia Meeting

(*Continued from Page* 10)

in this connection, and if the condition is found, make twist counts on the strong portions against the weak portions of the yarn. If the twist varies very much, this would indicate that the trouble is in the spindle. A complete answer to this question will be appreciated.

In making test, determine the temperature of your spindles so we may compare. This may be done by removing the band, raising the bolster, and placing a thermometer against the spindle. We would like to know what temperature you find on a large number of spindles. Give also the wet and dry bulb reading in the room at the time.

5. What is the best pitman roll to use on a spinning frame to keep it revolving?

Clemson Textile Students Visit Mills

Members of the senior and junior classes in textile engineering, and weaving and designing recently made inspection trips to two South Carolina mills.

The seniors and juniors specializing in weaving and designing accompanied by Professor W. E. Shinn visited the Oconee Mills at Westminster to study methods in rayon warp preparation and weaving. The group was extended courtesies by W. D. Hardy, superintendent of the plant, and reports a profitable and enjoyable visit.

The class in jacquard weaving accompanied by Professor A. E. McKenna, R. K. Eaton, and A. R. Macormac visited the Kenneth Cotton Mills at Walhalla, S. C., to study the manufacture of bedspreads and draperies. The group was conducted through the plant by W. K. Stringer, president and treasurer, and J. R. Clark, superintendent. By means of these visits the student has the opportunity to see some of the latest practical methods being used in the mills.

Cuts in Mercerized Yarn Rates Effected

Philadelphia.—Aberfoyle Manufacturing Company announces new prices, effective at once, for two-ply mercerized cotton yarns, which are reduced 2 cents per pound from 20s-2 to 120s-2, both inclusive, as follows:

	New Prices	Last Previous Prices
20s-2	$ .49	$ .51
24s-2	.50	.52
26s-2	.50½	.50½
28s-2	.51	.53
30s-2	.52	.54
32s-2	.53	.55
36s-2	.55	.57
40s-2	.58	.60
45s-2	.60	.62
50s-2	.62	.64
55s-2	.66	.68
60s-2	.70	.72
65s-2	.75	.77
70s-2	.82	.84
80s-2	.94	.96
90s-2	1.29	1.31
100s-2	1.59	1.61
120s-2	1.99	2.01

SUPERINTENDENTS AND OVERSEERS

We wish to obtain a complete list of the superintendents and overseers of every cotton mill in the South. Please fill in the enclosed blank and send it to us.

________________________, 19____

Name of Mill ________________________

Town ________________________

__________ Spinning Spindles __________ Looms

________________________ Superintendent

________________________ Carder

________________________ Spinner

________________________ Weaver

________________________ Cloth Room

________________________ Dyer

________________________ Master Mechanic

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Sizol speaks for itself. It has been on the market for 26 years, and every old weaver knows of its efficiency—the young do likewise.

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—*Patented in all important Countries*—
For
WORSTED, COTTON AND WOOLEN CARDS.

Write for particulars of our new metallic card clothing *doing away with grinding and stripping,* giving a greater output, a stronger thread, and more regularity, etc. It pays for itself in a very short time.

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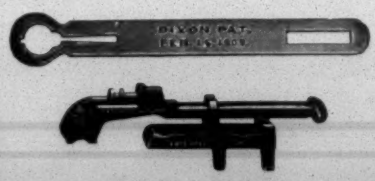
P. O. Box 407, Lexington, N. C.



Dixon's Patent Reversible and Locking in Back Saddle with New Oiling Device three Saddles in one, also Dixon's Patent Round Head Stirrup.

Send for samples

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Bristol, R. I.

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St. Louis San Francisco Chicago Shanghai (China)
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DOMESTIC EXPORT

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COTTON GOODS

New York.—Trade in the primary cotton goods market was very active through the early part of the week and it being the best week in the market for many months past. Sales of print cloths were estimated as having been at least 40,000,000 yards. It is also estimated that the mills are not carrying more than 2 weeks' stock. Their unfilled orders are equal to at least 10 weeks' production at the current schedule of production. The demand was strong enough to lift print cloth prices an eighth to a quarter cent a year. Contract business was very large, with some orders placed that call for delivery into the third quarter of the year.

Sheetings, especially the wide constructions, were in better demand. Carded broadcloths also continued to sell well. Prices on sheeting, sheets and pillowcases were reaffirmed through April and May.

There has also been a decided improvement in the figures of narrow sheetings, showing stocks less, unfilled orders greater and shipments increasing. The carded broadcloth situation is still favorable. Improvement of a definite caracter has set in on the fine combed goods of a staple character. The tire fabric production showed further small gains. More movement is reported on chambrays and some other staple colored goods. A moderate volume of sales of wide cloths for mechanical uses is disclosed. Ducks, drills, many of the staple twills and some other goods have not yet come into the picture showing some gains.

In combed broadcloths sales of good makes of two-ply and single cloths were reported at 23½c. In singles 144x76s were quoted at 13½c to 14½c for Eastern makes. Some 128x64s and other subcounts have been of interest, with 11c to 11¼c reported. In higher count carded descriptions 128x68s were reported at 10½c to 10¾c and 116x60s were reported at 10c to 10½c, with fair quantities sold this week spot and March at the 10c level.

Prices were as follows:

Print cloths, 27-in., 64x60s	4
Print cloths, 28-in., 64x60s	4¼
Gray goods, 38½1in., 64x60s	5
Gray goods, 39-in., 80x80s	6⅞
Brown sheetings, 3-yard	8¾
Brown sheetings, 4-yard, 56x60s	7½
Tickings, 8-ounce	17
Denims	12½
Standard prints	8
Dress ginghams	12½-15

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YARN MARKET

Philadelphia, Pa. — The yarn market continued to show improvement last week and spinners regard the outlook as very much more promising. It is true that large volume trading is slow to develop and the market has not had enough business to make for a better profit margin. At the same time, buyers showed increasing confidence. Their orders were mainly on the small lot side, but were more frequent and in many cases higher prices were paid. Spinners were firmer in their price ideas, and a price advance of at least a half cent a pound was averaged through the market. While buyers continued reluctant to meet higher prices, the price trend is undoubtedly upward and spinners feel that a broadening demand will put them in a much stronger position.

The weaving mills continued to place orders frequently and these were generally larger than the quantities bought in the past several weeks. Better business was done with the manufacturers of towels, men's wear goods, the plush trade. Some of the best business done came from the carpet mills.

Knitters continued to purchase rather sparingly. Deliveries to makers of light weight underwear were somewhat larger. Some very good business with insulators was also done.

Some improvement was reported in combed and mercerized yarns. As a rule combed orders were small and for prompt delivery. The price situation showed a good deal of irregularity, but was firmer than it had been for the past several weeks.

It is apparent that the yarn mills are going to have to continue their curtailment schedules for some time to come. Buyers are not yet confident enough to operate freely and any further accumulation of stock is going to give the market a set back and bring about lower prices.

Many spinners feel that a continued firm stand on prices will result in a much better yarn demand within a short time. Buyers are more willing to operate than for some time past. Cotton prices appear stable for the time being. A little more buying support should result in a smooth out of the remaining price irregularities.

Southern Single Chain Warps	
10s	19½
12s	20
16s	21
20s	22
26s	25
30s	27

Southern Two-Ply Chain	
8s	19
10s	19½
12s	20
16s	21½
20s	22½
24s	25
30s	27½
36s	33
40s	35
40s ex.	39

Southern Single Skeins	
8s	19
10s	19½
12s	20
14s	20½
16s	21
20s	22
24s	24
26s	25
28s	26
30s	27

Southern Two-Ply Skeins	
8s	19
10s	19½
12s	20
14s	21
16s	21½
20s	22½
24s	25
26s	26
30s	27
40s	35
40s ex.	38
50s	45
60s	52

Duck Yarns, 3, 4 and 5-Ply	
8s	21½
10s	22
12s	23
16s	24
20s	25

Carpet Yarns	
Tinged Carpet, 8s, 3 and 4-ply	18
White Carpet, 8s, 3 and 4-ply	19½

Part Waste Insulating Yarn	
8s, 1-ply	16½
8s, 2, 3 and 4-ply	17
10s, 1-ply and 3-ply	17½
12s, 2-ply	18
16s, 2-ply	19½
20s, 2-ply	20½
26s, 2-ply	24
30s, 2-ply	25½

Southern Frame Cones	
8s	20
20s	20½
12s	21
14s	21½
14s	21½
16s	22
18s	22½
20s	22½
22s	23
24s	24
26s	25
28s	26
30s	27
40s	35

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UNIVERSAL WINDING CO., 95 South St., Boston, Mass. Sou. Offices: Johnston Bldg., Charlotte, N. C.; Candler Bldg., Atlanta, Ga. Sou. Reps.: Frederick Jackson and I. E. Wynne, Charlotte Office; J. W. Stribling, Atlanta Office.

U S BOBBIN & SHUTTLE CO., Manchester, N. H. Sou. Plants: Monticello, Ga. (Jordan Division); Greenville, S. C.; Johnson City, Tenn. Sou. Reps.: L. K. Jordan, Sales Mgr. Jordan Div., Monticello, Ga.; D. C. Ragan, P. O. Box 536, High Point, N. C.; E. R. Umbach, P. O. Box 108, Atlanta, Ga.; M. Ousley, P. O. Box 816, Greenville, S. C.; J. H. Kelly, Jordan Div., Monticello, Ga.

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WATSON-WILLIAMS MFG. CO., Millbury, Mass., and Leicester, Mass. Sou. Rep.: George F. Bahan, P. O. Box 581, Charlotte, N. C.

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Industrialism in South Viewed as Poverty Cure

Atlanta, Ga.—That the greatest need of the South is more industry was the keynote of an address on the subject of "Industrialism versus Agrarianism for the South," given by W. D. Anderson, president of the Bibb Manufacturing Company, before the Institute on Citizenship of Emory University.

Despite the rapid growth of industrialism in the South, Mr. Anderson declared, in a debate with Dr. John Crowe Randolph, of Vanderbilt University, more than half of the population of the section is still on the farm, and this accounts, in a large measure, for the poverty of the section generally.

"Devotion to agriculture," said Mr. Anderson, in part, "has led to nothing but poverty for the South. Farm wages in the South are only 47 per cent as high as they are in other sections of the country. And the meagerness of wages is not by any means confined to the farmer. Teachers in the South get only 67.7 per cent as much as those elsewhere. Clergymen get only 73 per cent as much, college professors get but 87.7 per cent as much.

"The average annual income for farms in the South Atlantic States is only $635. Income tax returns from the section are fewer than from any other part of the United States.

"The only chance for the Southern farmer to prosper is through industrial development. We have too many farmers; not enough workers in other fields. Pennsylvania, for example, has 1.6 men engaged in industry for every man engaged in agriculture. And this State has struck a better balance than has any Southern State. This is what the South needs.

"Such a condition does away with the distant market; the expensive hauling to market; the unprofitable sale of farm products that must result from such a condition. The market is close at hand; a market created by industry.

"Not less agriculture, but more industry is what the South demands. Then, and only then, can the Southern farmer sell his products at a fair profit."

Sensible Legislation

The State Federation of Labor is working at Raleigh for passage of a bill which would establish the 55-hour week, and we find The Southern Textile Bulletin lined up with the Federation. The Bulletin is advising that the North Carolina body "should enact legislation restricting the day operation of cotton mills to 55 hours per week, and the night operation to 50 hours." Which would seem to make it unanimous. The Bulletin goes further, insisting, as of greater importance, the raising of the minimum age for night employment from 16 to 18 years. It points to the inconsistency of cotton mill men who boast that they will, by agreement, cease employment of women and children at night, and who are at the same time opposing legal restriction of night work to children under 18 years of age. The argument of The Bulletin is along lines calculated to bring the textile industry out of the woods. The legislation advocated being enacted, and The Cotton Textile Institute's campaign for elimination of night work for women and minors successfully instituted, it would be a long day before the industry would lapse into a condition such as has existed in the recent past. If there are any interests at Raleigh working against the 55 and 50 hours proposition and the taking of women and minors out of employment at night, then these lobbyists are engaged in a work that would prove anything but profitable for the industry.—Charlotte Observer.

U. S. Cotton Stocks At End of Jan. Put At 11,702,000 Bales

The total stock of cotton in all hands in the United States at the end of January, including the very small unpicked remnant of the crop, was 11,702,000 bales, compared with 8,829,000 on the same date last season, and 8,045,000 two seasons ago, according to the New York Cotton Exchange Service. The excess stocks this year are located entirely outside of the mills.

"Mill stocks on January 31 this year aggregated only 1,613,000 bales, against 1,826,000 last year and 1,768,000 bales two years ago," says the Exchange Service. "Stocks in public warehouses and compresses aggregated 7,939,000 bales at the end of January this year, against 5,405,000 last year, and 4,615,000 two years ago. Stocks on plantations and in transit were 2,150,000 bales at the end of January this year, against 1,598,000 last year, and 1,662,000 two years ago.

"The movement of cotton off plantations continued relatively small last month. The movement from plantations last month totalled only 467,000 bales, compared with 689,000 in the corresponding month last season, and 832,000 two seasons ago. The total movement off plantations in the season to the end of January totalled 12,324,000 bales this season, against 13,139,000 to the same date last season, and 12,881,000 two seasons ago."

Edited by Mrs. Ethel Thomas—"Aunt Becky."

Traveling Among the Mills

Dillon, S. C.—Carolina Textile Corp.

Of all the surprises in store for us Dillon was decidedly at head of the list. The last time we saw this place (15 years ago) it was anything but attractive, and now, even at this season, it was beautiful, with the mills in the front ranks of progress. Why Dillon is almost as pretty as Kannapolis, N. C., and that town had better not be caught napping or Dillon may walk past!

And why not? Is not M. L. Cannon, of Charlotte, president? And isn't he strictly up-to-date? And where will you find more progressive gentlemen than E. H. Brown, manager and treasurer, and M. T. Poovey, general superintendent? (If there are any superior, we'd truly like to meet them.) They are clear-eyed, "full-o-pep" and optimistic, cheerful, friendly, and running over with goodwill. "Aunt Becky" has a date to spend a week-end with Dillon friends this summer, and go to Myrtle Beach.

Talk about clean premises, but we found them in these mill villages. Every home has a nice garden plot, and these are being prepared for planting. Mr. Poovey took us through the village, proud of his thrifty people and their clean surroundings, and he had a right to be.

Along the new paved highway that runs through the village, much space is given to flowers, and this bids fair to be "an artist's dream come true," a few months later, and we hope to see it in its prime.

THOSE IN CHARGE

Mill No. 1: S. L. Green, superintendent; Murray Mincy, overseer carding; Leon Lovell, spinner; J. C. Arnett, night carder.

Mill No. 2: P. L. West, superintendent; E. W. Craft, overseer day carding; R. D. Butler, night carding; S. A. Jones, overseer spinning; Walter Jackson, overseer twisting.

Mill No. 3 (At Hamer): J. H. McDonald, superintendent; W. R. Easteridge, overseer carding; John Young, night carder; Wade H. Ivey, spinning and twisting; W. H. Wallace, master mechanic; A. J. Quick, shipping clerk.

Darlington, S. C.—Darlington Mfg. Co.

There wasn't a bit of work for us at Darlington, for the Southern Textile Bulletin goes to the office, to the superintendent, and to every overseer, and all are paid away ahead.

But it was a pleasure to visit this nice place, again, where C. L. Gilbert is the efficient, reliable and well liked superintendent.

The mill is half on steam and half on electric drive. New picker and opening room machinery, and new spoolers and warpers are to be installed. Broadcoth is the product at present, though much rayon-stripe shirting and other goods, have been made here. Mr. Gilbert showed us a large book of pretty samples.

This mill has a medical dispensary and Mrs. Mae Felder, community nurse, is said to be "good as any doctor." There's a nice community building, and various "clubs," a Y. M. C. A. with A. T. Shearin in charge. The mill has a very pretty yard, with large evergreen oaks, shrubbery and nicely trimmed hedges.

The houses are neat and all have good garden plots.

J. C. Stroud is overseer carding; W. F. Petty, spinner; G. H. Williams, weaver; W. A. Jordan, overseer cloth room.

Mr. Gilbert insisted that we go home with him for lunch, but we knew if we did we'd enjoy it so much we'd stay too long. So, we found the "Blue Bird Tea Room," a very delightful and cozy place, run by a woman who knows how,—and we hope she receives the patronage that she deserves.

Hartsville, S. C.—Hartsville Cotton Mill

From Darlington to Hartsville, there's a new paved highway so clean, white, and smooth, that we wondered if it had been sandpapered. And more and more beautiful farms and farm homes. Don't tell us that the right kind of farmers aren't prosperous!

Hartsville is headquarters for the great Coger Experimental Farms, and it is not unusual for tractors to be run at night when the moon shines. Oh, how we want to see this country when farms are at their best.

Here, too, we find Coker College, famous all over the South. And Coker's great Guernsey Dairies. And Coker's department store that covers a whole block, and carries anything from a paper of pins on up.

My! How we did want one of those Guernsey calves! People often give calves away rather than fool with them, and we thought perhaps we could get one. But—when we heard such prices as *five hundreds dollars,* we dropped the subject right quick, and tried not to "covet" anything that belong to the Cokers.

Hartsville is truly a beautiful and progressive town, and we would have enjoyed exploring it awhile.

For the first time (but we hope it won't be the last) we met M. T. Twitty, assistant treasurer, of Hartsville Cotton Mill. We wish we could meet gentlemen like him everywhere. C. C. Twitty is president and treasurer.

A Mr. Hill, whom we met several years ago in the mill, has been transferred to the office. He was baldheaded the first time we ever saw him, and still is,—and a bachelor. We don't know what is the matter with the girls around Hartsville. But next year is Leap Year, and some will remember that "a bald head means lots of brains."

W. A. Carpenter, superintendent, is the youngest looking man for his age we have ever seen. He was educated in Thornwell Orphanage, at Clinton, S. C., and holds fast to the fine principles and good habits formed there. Many years ago, he was a section man in the spinning room at Newberry Cotton Mills, Newberry, S. C., and our son Cecil (now overseer night weaving, Newberry Cotton Mills) worked on his section. Mr. Carpenter had not forgotten Cecil, and asked about him.

Mr. Carpenter gave us the kind of a welcome that warms the heart and convinces one that the world is getting better in spite of chronic whiners. He told us about the mill Y. M. C. A., mill hospital, and community nurse, and about the Mother's and Girl's Clubs. Wish we had room to tell it all.

This mill is on electric drive, and modern, new picking and card room machinery will be installed soon.

The product is 64-60 print cloth of excellent quality.

Seneca, S. C.—Lonsdale Mills

Dear Aunt Becky:

Lonsdale is still up and going. We are glad to report that the flu epidemic has not hit us very hard so far, as we have had only a few mild cases.

Since my last write-up the following couples have been united in wedlock: Mr. Howard Foster and Miss Flo Smith; Mr. Hubert Smith and Miss Luda Gilstrap; Mr. Guy Chitwood and Miss Willie D. Alberson; Mr. Adger Simpson and Miss Eva Alexander.

Visitors

Mr. and Mrs. J. D. Abbott, of Rock Hill, S. C., were week-end guests of Mr. W. W. Abbott and family.

Mr. and Mrs. D. C. Jones of Greenville visited relatives here recently.

Mrs. Sue Anna Saylor and daughter of Hartwell, Ga., spent the week-end with Mrs. Saylor's parents, Mr. and Mrs. Robert Foster of this place.

Mr. J. R. Byars, formerly of Iva, S. C., is now our second hand in spinning room.

Mr. B. L. Gaillard was a recent visitor to relatives in Balfour, N. C.

Our basketball team played a fast game with the New Holland team of Atlanta, Ga., Saturday night. The score in the wind-up was Lonsdale 38; New Holland 28. Lonsdale holds what we consider an excellent record, which is as follows:

Lonsdale	58	Huffs All Stars	23
Lonsdale	27	New Holland	17
Lonsdale	47	Spartanburg Y.	19
Lonsdale	30	Spartanburg Royals	10
Lonsdale	29	Pacific	31
Lonsdale	54	Pacific	24
Lonsdale	25	Lyman	15
Lonsdale	39	Lyman	24
Lonsdale	54	Judson	17
Lonsdale	52	Judson	12
Lonsdale	54	Monaghan	25
Lonsdale	56	Atlanta All Stars	23
Lonsdale	43	Richardson Stars	25
Lonsdale	41	Spartan Mills	29
Lonsdale	37	Spartan Mills	11
Lonsdale	56	Piedmont College	25
Lonsdale	41	Piedmont College	27
Lonsdale	38	New Holland	28

So you see out eighteen games Lonsdale has lost only one. This was the last game of the season and I suppose our plans will now turn to baseball. We are looking forward to the Textile Tournament to be held in Greenville, S. C., February 19-20-21. Lonedale will have two teams in the great battle of the tournament. The powerful class A team will be present to fight for the banner trophy, while the C team will be right there to show the boys that Lonsdale could use more than one cup.

The Woman's Missionary Society of the Lonsdale Baptist church met with Mrs. J. T. James, Tuesday evening, January 20th. The topic given for study was, "The Unfinished Task." After the business session the ladies enjoyed a delightful social hour during which a salad course was served by the hostess, assisted by Mrs. J. L. Padgett.

Our night school is progressing nicely with good attendance with two teachers for beginners and one teacher of domestic science.

Smoky.

Cherryville, N. C.—Cherryville Mfg. Co.

Cherryville Manufacturing Company is right in town, with a nice office near it, where business is transacted for all the Rhyne mills, at Cherryville, which includes Cherryville Mfg. Co., Howell Mfg. Co., Rhyne-Houser Mfg. Co., and Wildan Mfg. Co. D. E. Rhyne, of Lincolnton, is president, and W. B. Rhyne, secretary and treasurer. We had the pleasure of meeting the last named.

Mr. Carpenter showed us over his mill, which was in excellent order and one of three which was running on Friday.

A large new water tank for sprinkling system, was on the yard ready for installing.

Rhyne-Houser Mfg. Co., where Wm. McLord is the efficient and courteous superintendent, was humming busily, and making combed yarns, 60s to 80s. We had the pleasure of going through this mill, and wish to compliment Superintendent McLord and his overseers for having one of the cleanest mills we have seen in a long time. This mill is running day and night.

J. N. Ellis, carder, and J. C. Farris, spinner, are in charge of day operations; Lester Brindle, carder, and Marshall Weathers spinner, at night. A. G. Hicks, outside man.

Wildan Mfg. Co., is another nice mill, and was running. D. M. Williams is the pleasant young superintendent, with T. H. Whitesides, carder and spinner. The product is combed yarns, 30s to 50s and around 120 operatives are employed.

Howell Mfg. Co., is superintended by "Mack" Hayes; this mill was stopped on Friday, but we had the pleasure of meeting the superintendent.

Carlton Yarn Mills, Inc., and the Nuway Spinning Co., Inc., belong to a different company, and we were told that these two mills were exceptionally pretty and clean. Certainly the surroundings are very attractive. L. L. Self, is president both mills; C. A. Rudisill, secretary and treasurer of the Carlton, and manager, Nuway; M. M. Rudisill, is assistant treasurer, Carlton, and secretary and treasurer of Nuway.

These mills have a nice office, where we had the pleasure of meeting Superintendent W. B. Putnam, who presides over both mills.

Brookford, N. C.—Brookford Mills Co.

Here, too, we met with a disappointment. Assistant Treasurer M. A. Bolick, and Superintendent D. L. Howard were out of town.

We used to enjoy visiting this place and could always find something interesting to write about. It has lovely, rugged scenery,—one of the nicest school houses in the State, neat village homes and excellent people.

J. C. Byars is carder; J. H. Games, spinner; C. I. Thompson, weaver; R. L. Lipscomb, overseer cloth room; J. C. Stepp, master mechanic.

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May 18-23 Chosen For Work Clothes Week

May 18 to 23 has finally been selected as the period for National Work Clothes Week, which is to be sponsored by the International Association of Garment Manufacturers. Elaborate plans are under way for this event, so that one of the outstanding features of the program for the twenty-fourth annual convention of the I. A. G. M. to be held in the Hotel Stevens, Chicago, on March 2, 3, 4 and 5 will be the National Work Clothes Week luncheon, scheduled for Wednesday, March 4.

According to A. F. Allison, secretary, the annual convention luncheon in previous years has been devoted to the discussion of topics of general interest to all the various divisions of the garment industry represented in the membership.

"The decision to turn over the annual luncheon to the committees representing the Work Clothing Manufacturers Division, I. A. G. M. The Association of Cotton Textile Merchants in New York, and the Cotton-Textile Institute," said Mr. Allison, "was influenced by the belief that the proposed plan is of vital interest and importance, not only to the work clothing manufacturers and fabric houses directly concerned, but to the entire garment industry.

"Here is a proposition which involves the unusual situation of two industries engaging in constructive co-operation to develop better service to distributors and to the public. From the cotton field to the wearer's back, many stages and processes are represented, and the great desire and necessity of all merchandisers today is to stimulate production by improved selling methods.

"Last year the International Association of Garment Manufacturers staged the first demonstration of what could be done co-operatively in a sales promotion campaign. The response from retailers and the public to our first National Wash Dress Week went far beyond our most hopeful expectations. The same practical, common-sense plans and methods which made National Wash Dress Week a success are being used in the development of National Work Clothes Week

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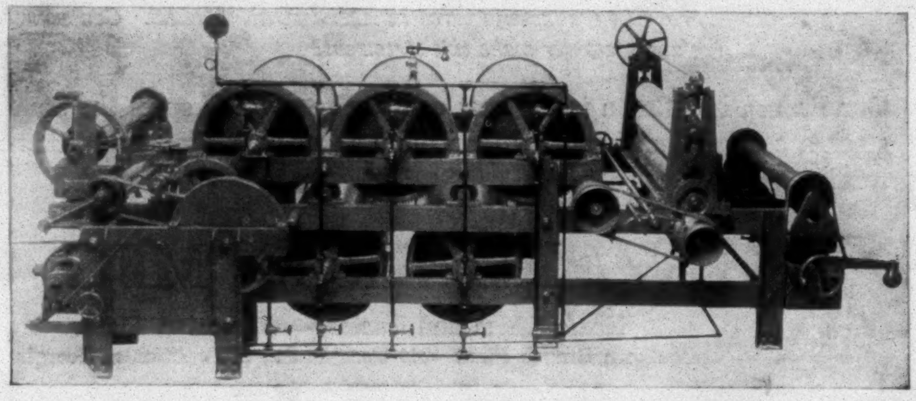

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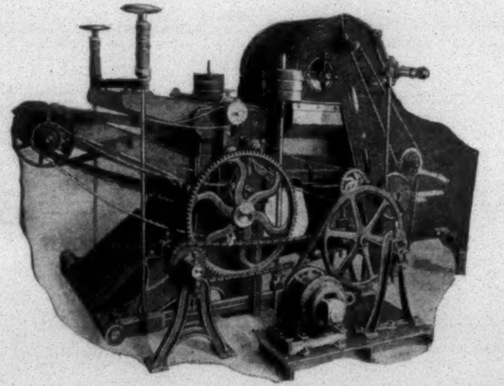

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